

THIS IS MICHIGAN

A sketch of these times and times gone by



A Historical Handbook

MICHIGAN HISTORICAL COMMISSION

1891



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THIS IS MICHIGAN

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A Handbook

Edited by Lewis Beeson

Compliments of

Netherlands Museum

Holland, Michigan

MICHIGAN HISTORICAL COMMISSION

Lansing, Michigan

1953

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TODAY AND YESTERDAY

I. These Times and Times Gone By

The development of Michigan, from the prehistoric times of the redman to the complex industrialized era of the present, lends itself to a series of chronological epochs, characterized by certain dominant economic influences of considerable significance. These epochs may be defined as follows:

Prehistoric. This era is concerned with the culture of the resident Indians, and those primitive natural forces which modified the activities of the early French explorers, the Jesuit and Franciscan Fathers, and the fur traders after their arrival in the area of the Great Lakes.

The Fur Trade and the Clash of European Cultures, Seventeenth and Eighteenth Centuries. The international rivalry which existed between the French and British Empires developed rapidly in the seventeenth and eighteenth centuries. This rivalry extended even to the remote settlements around the Great Lakes where the French had established a very profitable fur trade. Strategically located fur trading posts at Sault Ste Marie, the Straits of Mackinac, and Detroit were important centers for the collection and shipment of furs. The ever-encroaching tide of English fur traders and frontiersmen soon threatened the near monopoly exercised by France and by 1760, with the fall of Quebec, the French Empire in North America was doomed. The control of the fur trade thus passed successively from the French to the English and then to American traders, and each group thoroughly exploited Michigan's first great natural resource.

American Settlement and the Rise of Agriculture, 1796-1880. The relatively rapid movement of the Americans into the Northwest foretold the inevitable decline of the fur-trading industry. With the clearing of lands, the destruction of the natural habitat of the fur-bearing animals was unavoidable. After the first sale of public lands in 1818, immigration to Michigan increased tremendously and by 1840 thousands of pioneer farms signified the beginning of a new era. Since this period, Michigan has consistently maintained a stable

agricultural economy. Through normal times and depressions, punctuated by wars and waves of prosperity, the Michigan farmer has insisted upon the maintenance of a stable, conservative government which gave splendid support and encouragement to such social organizations as schools, churches, hospitals, and corrective institutions. It was during this period of early statehood that agriculture established itself as a keystone in our economic development.

Lumbering and Mining, 1850-1910. In the 1840's the infant industry of lumbering, along with copper and iron mining, began to attract the attention of eastern capitalists and industrialists. In the next fifty years, Michigan assumed unchallenged leadership of the nation in lumber production. Michigan copper, the only native copper known to the world at that time, was in tremendous demand to satisfy the various needs of the rapidly developing electrical enterprises. Until the opening of the Mesabi Range in Minnesota, Michigan led the nation in the production of high grade iron ore. This contributed materially to the so-called Age of Steel that witnessed our nation spanned by transcontinental railroads, our ships changed from wooden to steel bottoms, and our factories and buildings buttressed by steel. The contributions of the big three of the nineteenth century—lumber, copper, and iron—inevitably led to the development of a new era in our economic, political, and social life.

Urbanization and Industrial Development, 1900. The advent of the twentieth century saw Michigan gradually taking her place as one of the great manufacturing states of the union. The manufacturing industries of this era had their origins in the nineteenth century. The automobile industry, a natural outgrowth of the carriage trade, together with foundries and machine shops, furniture, drugs and chemicals, placed Michigan near the top in the creation of new wealth from new materials. This period also saw our state change from a rural to an urban economy. The tremendous growth of manufacturing establishments created problems that few of our sister states have ever faced. This growth, and the consequent dislocations occasioned by the depression of the 1930's, made Michigan particularly vulnerable, and created a host of new problems to be solved by our state officials, industrialists, and social agencies.

Automotive Growth and Recreation, 1910. This present epoch witnesses the continued march of our state toward industrial leader-

ship in our nation. Manufacturing still remains dominant, with automobile production and drug production leading the field. Our second ranking industry is recreation. Michigan has become the tourists' Mecca of the Middle West. Thousands of people from other states make Michigan their summer playground. Winter sports also attract vigorous visitors from many sections of the country.

Thus, in these six epochs of our development, certain dominant economic conditions have exerted profound influence in the rise of Michigan from the primitive prehistoric times of the redman to the complex, highly industrialized economy of the present era.

Michigan State Normal College

CARL R. ANDERSON

2. Vacationland in the Heart of the Great Lakes

The word vacation means to many people clear blue water, cool golden sandy beaches, pleasant, shaded streams, and many miles of forest stretching far away. Because of this, Michigan, located in the heart of the Great Lakes area of North America, has become a favorite vacation land.

In all the world there is no other group of lakes and their connecting water like the Great Lakes. Beginning just beyond the westernmost tip of Michigan's Upper Peninsula, the Great Lakes stretch eastward to the Thousand Islands, where the runoff water spills itself into the St. Lawrence River and begins its journey down that river to the sea.

Because Michigan is really two large peninsulas lying between four of these huge bodies of fresh water, Michigan has the longest shore line of any state. Michigan's long shore line of approximately twenty-three hundred miles gives the state many miles of beach. Much of it is clean and sandy and makes an ideal place to sit, eat, rest, or play, while out across the lake as far as the eye can see stretches deep blue water, sometimes calm but at other periods flecked with dancing whitecaps that come rolling in with a constant swishing or pounding against the shore. Here, to nature's enchantment, may be added the charming fascination of a passing ship that trails a feathery plume of smoke against a bright blue sky, or forms a silhouette against golden fleecy sunset clouds for a background, or holds aloft the white wing of a sail billowed outward by a gentle summer breeze.

Within these two peninsulas lie thousands of inland lakes and seemingly endless areas of beautiful forest lands. From these inland lakes meander sparkling streams of clear spring water, like the Au Sable, Sturgeon, Manistee, Rifle, and others. Through the shady forest lands they run, growing ever larger as they flow ceaselessly to the Great Lakes. In their dancing riffles and shaded pools lie the trout which are so eagerly sought by men who artfully cast a fly. Along the wooded shady banks of these clear fast running streams and on the cool sandy shores of many lakes among the pines, spruces, and birches thousands of cottages and cabins have been built.

Michigan's waters surround hundreds of islands. Some of these captivating formations, like phantom ships full of mystery and adventure, are on the inland lakes, others are found along the shores of the Great Lakes or in the larger rivers. Among the many islands can be listed some that are widely known and visited each summer by crowds of light-hearted people. They are Belle Isle, Mackinac Island, Isle Royale, Les Cheneaux, and the Beaver Islands.

On the Great Lakes pleasure boats make excursion trips from cities to recreation spots and points of interest. Other ships make special vacation cruises lasting a week or more. Car ferries link railroad to railroad across the lakes. State ferries carry passengers and automobiles from Mackinaw City to St. Ignace, while other ferries cross the Great Lakes at many places.

Not only do Michigan's lakes and streams attract the tourist but also its hundreds of square miles of second-growth timberlands, which are now replacing the cutover and burned-over forest lands where once stood the great forests that made Michigan famous. People like to drive through these forest areas, or walk among the trees and listen to the wind as it sighs, far over head, among the needles of a pine, or thrill at the ripple of a stream as it races over stones or spills itself around old stumps or over logs in the way, or hear the songs of birds, or see the deer as they graze through the woods, or splash flies in a stream.

Until the last few years much of this lake and forest land remained untouched because it was not accessible. But means of transportation have greatly improved during the last quarter century and now it is possible to leave our homes and within a few hours to be at a cabin a great distance away. For this reason many once dying lumber villages are now becoming famous resort centers.

Michigan has a fine system of highways that reach out like a huge spider's web overspreading the state. Hundreds of miles of paved state-maintained roads lead through pleasant farmlands in the southern counties and through the extensive cutover lands of the north-land where beautiful forests are again growing. Enticing side roads lead to favorite spots on lakes and streams. And so the inviting roads lure one on past hundreds of lakes, fields of mint, long abandoned lumber towns, weathered gristmills on shady streams, oil derricks barely seen above the trees, and hundreds of picnic tables located in

lovely spots that induce one to stop and eat and rest a while, until at last one reaches the old abandoned mines on upper Keweenaw Peninsula or parks his car beside the deep blue waters of Lake Superior to begin the climb to the Lake of the Clouds in the Porcupine Mountains.

From early spring to late fall the roads are lined with passing cars, loaded with boats and baggage and filled with happy people going to or from their favorite vacation playgrounds. To care for these hundreds of people are hotels, cabins, cottages, and tourist homes. For those nature lovers that enjoy camping in the open the State Department of Conservation, as well as many cities and counties, maintain parks located at pleasant sites along lakes and streams. At these parks people can camp, fry fish over an open camp fire, and swim in the clean clear water.

Year after year thousands of people enjoy, each in his own way, Michigan's beautiful vacation land. Some like to sit and read. Some like to hunt. To others comes a thrill from a quick tug on a fishing line. Still others ride horseback, go yachting, sailing or canoeing, study wild life, take pictures of flowers, birds, and trees. But all soon learn to enjoy the fragrance of the pines, the relaxing peaceful quiet of a mirror lake reflecting its dark-green wooded rim, the plaintive incessant call of the whippoorwill as lengthening shadows blend into graying dusk, and the restful sound sleep that follows a day of wholesome recreation in Michigan's vacation land.

Dearborn Junior College

FERRIS E. LEWIS

3. Putting a Nation on Wheels

In 1900, Michigan, which was to become the automobile capital of the world, was still largely a rural state, with only a few individuals interested in the new "horseless carriage." The industry in the whole United States was still in its infancy, and if any place was to be called the motorcar center of the world it was Paris, France. Americans were experimenting, however, and in the late eighties several motor vehicles were made in various parts of the country, but they were none too successful, at least not successful enough to put into quantity production. The first self-propelled vehicle built in Michigan was probably the steam car developed in the winter of 1884-85 by John and Thomas J. Clegg in their machine shop at Memphis. Although it ran about five hundred miles in the six months of its life and made a round trip from Memphis to Emmet, it never got beyond the testing state. Ransom E. Olds also toyed with steam-driven cars in the late eighties, and in 1887 built and drove a three wheeler in and around Lansing. Four years later he produced an improved four wheel model which he later sold to the Francis Times Company of Bombay, India. This is said to be the first sale of an American automobile, and although the claim may be disputed by other manufacturers, it was no doubt the first foreign sale. Henry Ford and other men likewise experimented with "steamers," but in the early nineties the trend was to gasoline cars because of the numerous advantages of the latter over steam and electricity as a means of propulsion.

The first successful gasoline car in the United States was that of Charles E. and Frank Duryea of Springfield, Massachusetts, in 1892. Charles B. King, a marine engine manufacturer, is credited with having made a gasoline powered automobile in 1894, which was publicly exhibited on the streets of Detroit in 1896. This might have been the second such car in America, for some authorities think it antedated by a short time the automobile made by Elwood Haynes of Kokomo, Indiana. In 1895 Olds produced a gasoline driven automobile and about the same time Henry Ford built and operated his

car. These were but "single edition" cars and were not made primarily for quantity manufacture and sale.

In 1897 Olds organized the Olds Motor Vehicle Company for the purpose of manufacturing and selling automobiles. Only one car was made that year, but once it became evident that the product would be successful, plans were made to build a factory in a satisfactory location and secure the additional capital necessary for quantity production. After failing to obtain the required financial aid from eastern bankers, Olds formed the Olds Motor Works in 1899 with capital supplied largely by local men and established a factory in Detroit. After this plant burned, the company began the production of cars in Lansing, reaching the astounding figure of five thousand a year in 1904. Other Michigan men also entered the field at the same time that Olds did. In 1899 Ford, with the backing of some Detroit capital, formed the Detroit Automobile Company, but, because of differences between Ford and his backers as to the kind of automobile to be produced, Ford withdrew in 1901 and organized his own company. This, the Henry Ford Company, soon failed, but in 1903 the Ford Motor Company was launched and with the introduction of the famous Model T in 1909 the company was assured of success.

The list of automobile companies formed in Michigan during the first two decades of the twentieth century is too long to enumerate. Many never got far beyond the paper stage and others, after producing for a few years, went out of business or were absorbed by other companies. But most of the makes which now comprise the "Big Three" had their origin in these years. Benjamin Briscoe, a Detroit manufacturer of metal goods, stampings, and radiators, with David Buick in 1903 organized the Buick Company, which was ultimately located at Flint and came under the management of William C. Durant. This was the company around which Durant formed the General Motors Corporation in 1908. To the Buick, General Motors soon added the Oakland, now the Pontiac, which Edward Murphy of Pontiac had begun to build in 1908; and the Cadillac, which had resulted from the reorganization of the Detroit Automobile Company after Ford's withdrawal. Chevrolet, the origins of which go back to 1911, was the means by which Durant

was able to regain in 1915 the control of General Motors which he lost in 1910-11.

The ancestor of the Chrysler was the Maxwell. The Maxwell-Briscoe Motor Company was founded in 1904 by Benjamin Briscoe and Johnathan D. Maxwell, who had just left the Northern Motor Company of Detroit. After numerous vicissitudes, the Maxwell Company was purchased by Walter Chrysler in 1919. Nine years later he acquired the Dodge Motor Company of Detroit, which had been founded in 1914. The acquisition of Dodge enabled Chrysler to take his place with Ford and General Motors and become the third member of the "Big Three." Two other important companies of today, Packard and Hudson, also stem from the early years of this century. In 1903, after the entrance of Henry B. Joy into the Packard Motor Car Company, the plant was moved from Warren, Ohio, to Detroit, and in 1909 the Hudson Motor Car Company was incorporated in Michigan by Roy D. Chapin, Howard E. Coffin, Frederick O. Bezner, and Roscoe B. Jackson. A newcomer to the field, Kaiser-Frazer, can also trace its ancestry to a Michigan firm, the Paige-Detroit Motor Car Company incorporated in 1908.

If in 1900 Michigan was far from being the leading producer of automobiles, it was at the top ten years later. In 1910 it was estimated that sixty per cent of American production came from Michigan. Michigan has continued to hold her lead and despite the tendency to establish assembly and parts plants in other areas, nearly forty-five per cent of the overall automobile production, excluding trucks, comes from Michigan.

Various reasons have been given for Michigan's place as the leader in the automobile world, both in the United States and abroad, but there is no one factor which brought this about. The state did have a flourishing carriage trade, the second largest in the country in 1900, and with the tendency of early manufacturers to copy buggy styles this was an asset. There were also numerous marine engine factories, foundries, and machine shops in the state which furnished the know-how of engine and parts manufacturing and a skilled labor supply. Since these factors also existed in varying degrees in other states, they alone cannot explain wholly the predominance of Michigan. A very important factor was, no doubt, the character of the men who pioneered in this new method of transportation. They were for the most

part practical men, engineers and mechanics, who built cars for the public. They had faith in themselves and envisioned the automobile as the coming popular conveyance and not as a sportsman's or a rich man's toy. To make this dream come true meant quantity production, but quantity production means vast outlays of capital. The necessary funds were, perhaps, more easily obtained in Michigan than in any other state. Eastern capitalists were by nature cautious and not willing to invest large sums in a gamble. In Michigan fortunes had been made in speculation in timber and mining, and with these fields of opportunity declining there were numerous investors willing to risk their cash in new and untried ventures. All such enterprises were not successful but there were enough successful ones to give Michigan the lead when the derisive cry of "Get a horse" ceased to have meaning.

Wayne University

JOE L. NORRIS

4. Our Melting Pot of Nationalities

From Detroit's Paradise Valley where Joe Louis started on his road to fame to the lumber camps of the north where Paul Bunyan once courted a Finnish lass, the racial elements of Michigan lend color and strength to the demographic pattern of the state. Our first European inhabitants were Frenchmen, and these storied *voyageurs* and *coureurs de bois* promptly gave bed and board to Indian wives. Today the largest "foreign" element in the state is still the Canadian, although the Canadian French lag behind the English numerically.

The nineteenth century saw tremendous waves of immigration from Europe to Michigan. Stout old Albertus C. Van Raalte, a secessionist parson, led a group of Rotterdam Dutch, men of Drenthe and other provinces of Holland, to western Michigan in the middle of the last century. The steady trend of immigration typified by that of the Dutch has lasted to the present day. From Germany and Austria came streams of new citizens from 1830 on through the 1920's. The eminent Carl Schurz, dean of the "Forty-Eighters" (liberal Europeans who fled to the Western Hemisphere upon the collapse of the Revolution of 1848), once edited a Detroit newspaper; and Robert Reitzel's sly humor in *Der arme Teufel* of Detroit is still justly famous.

From the north, Sweden and her sister nation Finland have yielded more Michiganders than any of the other Scandinavian nations, although Norwegians and Danes have come to the peninsulas in substantial numbers. It was the lumber industry which attracted these modern vikings, and not a few have gone down in the legends of the logging camps as fighters of bloody renown. Today they are more closely identified with the skilled trades, the professions, and education.

From the Slavic east came the largest single group of new Michiganders. The "Polish City" of Hamtramck, an enclave in Detroit, has a larger proportion of inhabitants of Polish blood than Wilna or Lemberg. Posen Township, near Rogers City, is as good an example of a Polish community in the new world as is Frankenmuth of a German town. Both are bits of the old world whose social and economic

ideals and political institutions alone indicate that their geographical location is in Michigan.

From the Ukraine, from White Russia, from Lithuania, from the Volga German provinces, and from virtually all the other component nations of the Soviet domain, armies of Michiganders have come. Hungary, Croatia, Slovenia, Serbia, Bohemia, Moravia, Slovakia, Roumania, and Greece have also contributed their fair share of the state's population.

From the British Isles we have the ubiquitous Irishman, although not in the same proportions as in Boston or New York. The Cornishmen with their wealth of knowledge of the mines have contributed immeasurably to the development of the state's mineral resources. Native-born Englishmen and Scotsmen come into the United States in droves through the port of Detroit.

Italians have been coming to Michigan since the 1880's, and even today some of the tastiest *ravioli* this side of Naples may be had in Detroit. With the dawn of the automobile industry, Italians from all parts of America flocked to Detroit. However, they are gradually losing their identity as a compact racial group.

The metropolis of Detroit harbors virtually every nationality on earth, from Eskimo to Armenian, from Albanian to Afghan. It has dozens of foreign language publications, parochial schools, and other cultural ingredients that make for a hyphenated population. However, all this is rapidly disappearing, and within a generation the foreigner in Detroit will be no more conspicuous than he might be in London, Vienna, Copenhagen, or any other world metropolis.

Of our racial elements, the negro, who is concentrated in the lower half of the lower peninsula, is the only significant group other than the white, although there are a good many red Indians and some orientals. During the Revolutionary War Indians returned from raids into Kentucky with negroes. Before the Civil War fugitive slaves settled in Michigan. During World War I the negro began to flock to Michigan to labor in factories and since then he has steadily increased in numbers. Seven per cent of the state's population is colored, and most of those citizens reside in Detroit or Wayne County. Although once the object of discrimination in many communities, institutions, and labor unions, the negro is coming into his own in Michigan as a first class citizen.

What do all these elements contribute to Michigan? There is color and ceremony to delight the folklorist, a gradually subsiding linguistic babel which is a philologist's never-never land, and a variety of food from the *Wiener Schnitzel* to the *baklavado* to tickle the palate of any gourmet. More significant, however, is the capability of all these groups to be welded together as Americans, to form a united democratic front despite the fears and prejudices of the old world. Michigan has done much for her immigrants; her immigrants have done much for her.

Western Michigan College

LAWRENCE S. THOMPSON

5. Labor and Social Welfare

Although Michigan labor history is usually associated with the contemporary industrial era, the story begins with the years prior to statehood. The Detroit Mechanics Society was founded in 1818 and similar organizations, devoted primarily to mutual self-help and not confined to any class of artisans, appeared in other cities shortly thereafter. It was not until the ten years preceding the Civil War that trade unions—organizations formed on a craft or skilled basis—made their appearance. By the close of the Civil War, craft unions, usually with a small membership composed of printers, machinists, cigar makers, carpenters, and other skilled workers, could be found in Detroit and were not uncommon in some of the other cities.

Trade unionism declined after the Civil War and became even less significant during the panic of 1873. In this interval of dormancy many Michigan laborers, including the majority of trade unionists, turned to the Knights of Labor, which had been founded in 1869 as a secret fraternal order, to enroll all workers and not merely those who were members of craft unions. The characteristic of secrecy was soon abandoned and greater emphasis was given to co-operatives and broad economic and social reforms. Although a peak Michigan membership of approximately eight thousand (including some farmers) was reached in 1886, a very rapid decline began almost immediately, largely because of the internal structure of the organization and its remote objectives.

The death of the Knights of Labor was contemporary with the revival of active trade unionism, which turned to the principles of the American Federation of Labor, an organization composed primarily of craft workers. Although the industrialization of Michigan increased each successive year since 1900, it was not accompanied by a corresponding growth in union activity. The important automotive and other heavy industries did not claim many union men, even though the American Federation of Labor made feeble efforts to organize auto workers as early as 1903, and a formal union, with a small membership, was founded in 1916.

By 1930 manufacturing had become the basis of livelihood for

forty and eight-tenths per cent of the population. Accordingly, the depression which began in 1929 led to widescale unemployment, which was particularly severe in Michigan cities, because of its heavy industry. Federal legislation of 1933 and succeeding years encouraged collective bargaining and various unions accordingly appealed to the unorganized Michigan workers. The United Automobile Workers, which stressed the organization of all workers, skilled and unskilled, on an industrial basis, emerged as the most successful in a two-year battle for membership. The United Automobile Workers was affiliated with the Congress of Industrial Organizations, which had accepted the leadership of John L. Lewis in 1935. In fact, the United Automobile Workers, together with the steel and coal unions, constituted the most important units in this new powerful labor vehicle. The United Automobile Workers claimed unusual attention when it called the sit-down strike at Flint in November, 1936. This type of strike marked a new procedure since it did not rely even upon such familiar devices as picketing, but instead the workers took possession of and remained in possession of the plant. Early in 1937, following a lengthy sit-down strike, the General Motors Corporation accepted the United Automobile Workers as the sole bargaining agent for its employees and by 1941 other automotive concerns (sometimes as the result of the sit-down strike) had followed the General Motors example. At the beginning of World War II the United Automobile Workers was the largest union in Michigan.

The United Automobile Workers has tended to emphasize political action and has undertaken campaigns in several cities. It has been concerned, in addition to problems of wages, with questions of management, conditions of work, speed of production and has also inaugurated welfare, educational, and medical programs.

The American Federation of Labor has also increased its membership greatly in the years following 1933. Several independent unions, of which the Railroad Brotherhoods are among the best known, have also been active. Very significant is the decline of the Industrial Workers of the World and other radical labor organizations, which on various occasions prior to 1933 made persistent, but relatively ineffective efforts to organize Michigan workers.

The Michigan workers have probably enjoyed a standard of living

above that prevailing in some states and the conditions of labor have undoubtedly been more favorable than the average. Although the majority of contemporary gains to labor tend to follow a national pattern, the state government has ever been alert on behalf of the laboring man. A Bureau of Labor and Statistics was created in 1883. The information which it secured concerning social and economic conditions resulted in legislation affecting hours of labor, conditions of employment of women and children, regulation of safety devices, and compulsory school attendance. The bureau became the Department of Labor in 1909. Very significant also was legislation of which the Workmen's Compensation Act of 1912, which provided for mandatory compensation resulting in disability or fatality from occupational accidents, is typical. The Labor Mediation Board assists in the settlement of employer-employee issues and provides the machinery for the settlement of public utility and certain other types of disputes.

The industrialization which so drastically affected the pattern of the labor movement resulted in government responsibility for social welfare. In the agrarian society emergencies were met by private and community assistance. Religious bodies established orphan homes, hospitals, and other charitable institutions. The state government assumed the responsibility in 1848 for the care of the deaf, dumb, blind, and insane, but the other welfare problems were regarded as a function of local government and each county maintained a farm, commonly known as the poorhouse, for the support and maintenance of paupers. The state constantly supplemented the services of existing agencies and enlarged its institutional resources.

The great depression of the 1930's called attention further to the question of insecurity in an industrial-urban age. As a result, legislation from 1933 through 1937 in particular, sometimes as a result of a Federal formula, resulted in measures which made the state government the disbursement unit for a welfare program which embraces old age pensions, unemployment insurance, aid to the blind, assistance to minors, and provides for a program of co-operation with welfare departments of city governments. Obviously these services could not have been undertaken without new sources of state revenue, of which the state sales tax has been the most significant, along with federal aid.

Wayne University

SIDNEY GLAZER

6. Better Farming for Better Living

Noisy factory wheels and towering smokestacks proclaim Michigan's leadership in industry. Not so dramatic, perhaps, but highly important to all citizens of the state and to consumers throughout the nation are the quietly grazing herds and the spreading field crops that constitute Michigan's agriculture.

On the giant patchwork of farmland stretching from Lake Michigan eastward to Lake Huron grow valuable crops of great variety. Besides such grains as corn, wheat, oats, rye, barley, and buckwheat, there are sugar beets, field beans, and potatoes, as well as alfalfa, clover, and other hay crops. Contributing to the medley are different kinds of fruit and canning crops, such as apples, peaches, pears, cherries, grapes, strawberries, snap beans, asparagus, celery, carrots, cucumbers, green peas, onions, tomatoes, cabbage, and rutabagas. And we must not overlook those important ingredients of chewing gum: peppermint and spearmint.

Although only about one third of Michigan's land area is being utilized to grow farm crops, the state ranks tenth or better in the production of twenty of the nation's major crops. Michigan ranks first in acreage devoted to field beans, alfalfa, sour cherries, celery (late), pickling cucumbers, and chicory. In 1951 the state's cash farm income reached an all-time high of \$734,000,000, of which \$476,000,000 came from livestock and livestock products, \$248,000,000 from cash crops, and \$8,800,000 from governmental payments.

In keeping with other trends, Michigan farming has undergone a considerable change during the past half-century. This is true of the types of crops grown and livestock raised as well as of the methods used. For example, winter wheat in the 1890's was Michigan's leading grain crop. It had continued to hold leadership since the early times when wheat and wool were the state's most important farm products. From 1,750,000 acres in 1899, wheat acreage declined to 1,243,000 in 1951. Corn and oats now outrank it both in acreage and production. Increased acreage of wheat since 1947, owing to abnormal market and weather factors, indicated a brief reversal of the long-time trend.

Another important crop of today, sugar beets, had an insignificant acreage and cash return in the early nineties; in 1950, about 98,000 acres were harvested with a cash return exceeding \$11,900,000.

As for farm animals, many changes have occurred during the past fifty years. Continuing a decline which began in the 1880's, the number of sheep on Michigan farms in 1952 was 433,000. The number of horses has declined to 79,000, slightly less than an eighth of the peak of 680,000 reached before World War I.

The number of dairy cattle, on the other hand, has steadily increased. In 1952 Michigan ranked seventh among the states in milk production, and her dairy farmers received a cash income of \$213,000,000 through the sale of market milk and cream. This amount was equivalent to about one third of the total farm cash income. As would be expected, an increase in the acreage of alfalfa and clover hay has accompanied the increase in dairy cattle.

Michigan farmers have recognized that since the climate cannot be adapted to the crop, the crop must be adapted to the climate. During the last fifty years, they have also come to realize the potentialities of Michigan's many soil types for producing specialized crops. As a result, there has been a consistent trend toward increased specialization, and so-called "general farming" is much less prevalent today than it was in 1900. As the Thumb has become the center of sugar-beet and field-bean production, the southwestern part of the state has attained its supremacy in fruit production. One of the specialized Michigan crops most recently developed is the improved or hybrid blueberry. This crop, unknown commercially, until little over a decade ago, thrives on an acid soil heretofore considered of little value for farming. In 1945, the blueberry crop brought farmers a cash return of \$345,000.

Increased mechanization and the perfection of the internal combustion engine after 1900 helped to change in many ways the pattern of Michigan farming. Not only did the gasoline engine provide a means of transportation which helped to transform farm life, but it gave farmers convenient and economical power. By 1910 tractors were being used throughout the state in field operations. The horse, however, did not lose ground rapidly until after 1920, when more improved and smaller tractors were marketed. As better transportation facilities became available, Michigan farmers in many sections of

the state changed their operations to take advantage of new market possibilities. Illustrative of the increased use of machines on Michigan farms are the census figures for farm machinery and implements. In 1900, the estimated value of such equipment was \$29,000,000, while by 1945 it had increased to \$214,000,000.

Michigan State College has played a large part in improving Michigan's agriculture. As the nation's oldest institution founded to teach scientific agriculture, the college has been instrumental in promoting new and better farming methods, improved breeds of livestock, and better crop varieties. Extension work on a large scale began in 1914, and this has been the principal means of bringing to all sections of the state results obtained by research workers of the Agricultural Experiment Station. The college has received co-operation from various Michigan farm organizations and the United States Department of Agriculture.

Despite the increasing attention paid to better methods of farming since 1900, man's efforts to produce more and more have contributed to a steady and alarming loss of soil fertility. Water and wind erosion have caused permanent damage to thousands of acres. United States Department of Agriculture surveys show that about four fifths of Michigan's farm land is in need of intensive conservation practices.

Effective soil conservation methods have been developed to curb these losses and are now being applied by farmers co-operating in fifty soil conservation districts organized in all parts of the state. Methods used to control water erosion include use of better crop rotations, cultivating on the contour rather than up and down slopes, strip-cropping, cover-cropping, and terracing. Where wind erosion is serious, such as on muckland, windbreaks are used together with strip-cropping and the growing of cover crops to hold the soil after the regular crop has been harvested. Out of the facts learned by Michigan farmers about prevention of soil loss has come the realization that it is better to fit the farm program to the land than to attempt to fit the land to the program. In their farming operations of today, the grandsons and great-grandsons of the pioneers who exploited the fertile oak openings control Michigan's agricultural future.

Michigan State College

JOSEPH G. DUNCAN

7. Changes in Rural and Urban Living

During the latter part of the nineteenth century, and on into the twentieth, the machine age came to Michigan. Here as elsewhere, cities grew faster than rural areas. The movement to the city proceeded at approximately the same pace in Michigan as elsewhere in the nation until about 1910. In that year 47.2 per cent of the people of Michigan lived in towns and cities of over twenty-five hundred. The national average was 45.8 per cent. But during the next two decades, the heyday of the automobile age, the trek to the cities proceeded more rapidly in Michigan than in other states. The 1930 census revealed that 68.2 per cent of the people of Michigan lived in towns and cities, while the national average was 56.2 per cent. The great depression of the 1930's began a trend towards the country. The popularity of the automobile increased the trend away from the city. Thus the trend towards the rural areas continues. The census of 1950 indicated that the proportion of urban population had declined to 65.3 per cent. Of the 34.7 per cent rural population, 24.4 per cent are non-farmers. Only 10.3 per cent of the total population of Michigan are farmers.

The changes wrought in the pattern of living by this population movement were profound. The independence which came from producing a large share of the family's needs without relying on outside sources of supply was lost. Gone was the contact with the land, the close communion with nature, the intimate association with growing things. Gone, too, was the simple neighborliness, the wholesome life in the open, the leisurely pace of country living. Physical toil was lighter, but there also was the eternal spectre of unemployment.

Life in the city always was exciting. Each decade brought some new wonder. Most of the larger Michigan cities were installing public water supply systems in the 1860's and 1870's. By 1886, one fifth of Detroit's population was supplied with running water. The old volunteer fire departments yielded to professional fire fighters. Fire alarm boxes were installed in Detroit in 1870. Gas lights and horse cars were still new in most Michigan cities in the 1870's and 1880's. Telephone service was started in Grand Rapids in 1879. By 1883

there were 530 subscribers. Incandescent electric lights and electric trolley cars made the 1890's the electric decade in most Michigan towns. But common folk got along with kerosene lamps or gas until around 1910.

As the cities grew, open spaces and parks became necessary. Grand Rapids got its first large park in 1869. The Young Men's Christian Association and the Young Women's Christian Association were established in most cities by 1900. The bicycle craze was at its height in the 1890's. Detroit got a franchise in the American League in 1900. Tennis courts and golf courses further reflected the need for recreation facilities. The automobile began to appear about 1910, and about the same time motion pictures came along. The 1920's brought an amazing variety of gadgets: radios, vacuum sweepers, electric refrigerators, and many others. The decade of the 1930's was an era of unrest, uncertainty, and depression. But the Works Progress Administration workers built many fine parks, recreation areas, and public buildings. And then in the 1940's the war and post-war boom period again brought exciting changes. It suddenly became easy to get a good job paying high wages. Huge factories were built and equipped. Housing became a problem. Around every city, suburban areas were built rapidly, creating new problems of metropolitan planning.

Meanwhile, rural life was undergoing a transformation quite as great as urban living. These changes may be illustrated by citing a few significant data. In 1940, milk production was double that in 1910, but less than one quarter of the amount of butter was churned on the farm in 1940 than was in 1910. In 1920 only 4 per cent of the livestock delivered at the Detroit stockyards came by truck; in 1940, 81 per cent came that way. In 1896, the first rural mail carrier in Michigan, and one of the first in the nation, made a delivery from the Climax postoffice. Today virtually every farm in the state is on a rural free delivery route. By 1920 there were telephones on almost half the farms in Michigan. Machinery on Michigan farms in 1900 was valued at \$29,000,000; in 1945 it totalled \$214,000,000. These figures illustrate the fact that the isolation of the rural home is a thing of the past; that farming is becoming mechanized, and that the farm family today enjoys almost every convenience and comfort available to city dwellers.

The average size of Michigan farms has not changed much. In 1860 it was 112 acres, in 1950 it was 111 acres. But the value of farm properties has increased sharply. The average Michigan farm in 1900, including buildings, was worth about \$2,800. In 1950, it was valued at \$10,935, and the figure undoubtedly is much higher today. More than three fourths of the farms in Michigan today are operated by full owners. Price support for farm crops, inaugurated in the late 1930's, increased during the war, and maintained since, has brought to Michigan farmers their greatest era of prosperity.

Specialization and scientific methods are required to operate a farm successfully today. Potatoes in northern Michigan, navy beans and sugar beets in the Saginaw Valley and the Thumb, cherries in the Grand Traverse region, berries and small fruits in the southwestern counties—these are examples of area specialization. Through Michigan State College and its extension service, Michigan farmers constantly use scientific tools to solve their problems, improve their techniques, and increase their production. In spite of the fact that the rural areas have lost population to the cities, Michigan farmers, by using machinery and better methods, produce more and better food-stuffs today than they did a half century ago.

All these changes have come so rapidly that we have not learned yet how to adjust to them. And the end is not yet in sight. The spirit of adventure and confidence which characterized the pioneers of Michigan is needed as much now as it was when Michigan was a new country.

Western Michigan College

WILLIS F. DUNBAR

8. We the People and Our Government

Direction of governmental affairs in the state of Michigan rests ultimately with those citizens qualified to vote and exercising the privilege. Voters in Michigan must be twenty-one years of age, citizens of the United States, residents in the state six months and in the city or township at least twenty days. These qualifications must be established by the would-be voter's registration in his political unit prior to an election.

The voter's job in Michigan is a big one. Perhaps that is why so many do not exercise their voting privilege. Elections are frequent and many public offices are elective. In even-numbered years there are annual township elections in April, fall primaries in August, and fall elections in November at which are elected the governor, lieutenant governor, secretary of state, auditor general, attorney general, and treasurer. In odd-numbered years there are spring primaries in February and elections in April for the superintendent of public instruction, highway commissioner, board of agriculture, regents of the University of Michigan, and members of the Supreme Court as well as for state senators and representatives. Voter's also are responsible for the election of school district, city, village, township, county, and federal officers. The electorate in Michigan also have referred to them for decision either by the legislature or through popular initiative both statutory and constitutional proposals.

Governmental powers and organization in the state of Michigan are determined by the state and Federal constitutions. The people of Michigan have frequently altered their fundamental state law. It has been amended fifty-five times by vote of the people. The present constitution of Michigan, dating from 1908, is the third since statehood. The most notable aspects of the constitution of Michigan are the ease with which it may be amended, the number of elective officers, the limitations upon the powers of the legislature, particularly in the field of finance, the declaration of rights, and the traditional separation of powers between the legislative, executive, and judicial departments.

The constitution provides for a two-house legislature. A senate of

thirty-four members and a house of representatives of one hundred ten members are apportioned to senatorial and representative districts roughly according to population after each decennial census. A constitutional amendment adopted in 1952 changed the method of apportioning the legislature. The 1953 legislature thereupon reapportioned so as to remove some of the inequalities of representative districts. Wayne County now has thirty-seven representatives instead of twenty-seven. The representatives for the city of Detroit now are elected by districts instead of at large. In spite of the changes there is still a measure of overrepresentation of rural areas.

At noon, on the second Wednesday in January the legislature meets in regular annual session. There is no limit on the duration of sessions. Present-day sessions witness the introduction of about eight hundred bills. During the last twenty regular sessions an average of 353 public acts have been passed. About 20 per cent of these enactments are new laws; the rest simply amend existing laws to meet changing administrative, legal, economic, and social circumstances. Frequent special sessions have been called by governors in the last two decades. Bills relating to the administration and support of the various departments of state government; affecting public health, public safety, agriculture, conservation, education, welfare, corporations, public utilities, banking, trade and commerce, insurance, property, domestic relations, criminal law; and dealing with county and municipal problems demand almost constant attention of the legislature.

The constitution makes the governor the chief executive of the state. His administrative authority is shared and is not commensurate with the responsibility to which he is held by the people. Under his nominal supervision are over one hundred administrative agencies, some headed by elective officers, others by appointive multi-member commissions with overlapping terms, and a very few by individuals with tenure dependent upon executive pleasure. Most gubernatorial appointments must be confirmed by the Senate. The principal administrative departments of the state government from the standpoint of the money they spend are: public inspection, highway, public welfare, mental health, public health, adult corrections, conservation, state police, military establishment, and agriculture. There are nearly twenty-five thousand employees in the state civil service.

Many of the governmental activities for which the state is responsible are actually administered solely or in conjunction with its subdivisions, the eighty-three counties. The cities also co-operate with the state in the performance of many governmental functions. In the organization and administration of their purely local affairs, however, Michigan cities are guaranteed home rule by the constitution.

Justice in Michigan is dependent upon the hierarchy of courts. The Supreme Court has primarily appellate jurisdiction. It is composed of eight members nominated at party conventions and elected on a nonpartisan ticket. The forty circuit courts sitting four times a year in each county are presided over by judges nominated and elected on a nonpartisan ticket for six year terms. They are the courts of original general trial jurisdiction in criminal and civil matters. There are probate courts in each county, the judges of which also are elected. Probate courts have original jurisdiction in probate and juvenile cases. In addition, for local justice, there are courts of limited jurisdiction in the cities and outside them the justice-of-the-peace system prevails.

University of Michigan

JOHN A. PERKINS

9. Education for All the People

Those big red, white, and blue and the new chrome yellow school busses that you see everywhere on the highways of Michigan are symbols of changes in education. The gasoline engine has touched the lives of children, for whom the school bus at the door on a concrete highway has completely wiped out the necessity of a two-mile tramp through the mud. The cold lunches school children once carried have been replaced for thousands by well-balanced hot lunches served at school. The battered text books they once carried, handed down from brother to sister to brother, have been replaced for more thousands by school-owned books, attractively illustrated and with carefully controlled word counts.

Changes in education have come thick and fast in Michigan since we rounded the turn of the century and plunged headlong into industrialism, fast transportation, and two world wars, and our schools have been in the thick of things all the time.

We have bigger and better schools; education for more and more people. There are nursery schools and kindergartens at one end of the school ladder, and junior colleges and adult education programs at the other end. Here are little folks just learning to play and work together and to read about Dick and Jane; and there are adults sitting down together to tie many colored fish flies or to discuss the state of the world—which can stand some discussing. In between are long lessons of simple and complex fractions, George Washington and Abraham Lincoln, sociology, civics, industrial arts, foreign languages, and much more. There is a place for every interest, although to find room for all this activity taxes school buildings heavily these days.

For another evidence of change in the educational world, take a look at a college or university campus. Those barracks, trailers, and clotheslines, well laden with washings, are something new to the campus, as the ex-G.I.'s and their wives, too, go purposefully towards their diplomas. Yet if colleges are crowded today, what will they be like later? For the predictions are that the peak of college enrollments will come when the class of 1964 gets there.

These changes in education may sound pretty revolutionary, but

they are not. Every step of the way has been thought about, and many of the changes are not on the surface. They have resulted from the American dream of better things for more people. Education has been both the product and the parent of that dream.

There have been changes in the organization and tax support of education. The Department of Public Instruction has furnished leadership to help weaker districts so that opportunity will be more nearly equal. It has encouraged the reorganization plans which have resulted in larger districts with enough wealth to provide better schools. It has exerted a constant effort to improve the certification standards of teachers, and the teacher-training institutions have given their co-operation so that the youth of Michigan may be capably instructed. Large portions of co-operation have been necessary to balance state control with local responsibility and concern.

More pupils have created demands for the teaching of many new things. The modern high school presents a bewildering array of courses and activities. To list some of them gives a hint of the variety of available experiences. Credit courses are commonly given in agriculture, home economics, public speaking, fine arts, commercial training of many sorts, and industrial arts, from farm shops to metal-working and wood-working. English, both oral and written, is a basic tool in the modern world. Social sciences, including history, civics, and economics, and often sociology, consumer education, or modern problems are always offered, along with mathematics and the physical sciences.

A modern school curriculum provides many other things to give experiences to the pupils: a school newspaper, a student council, dramatics, and debating, and a number of clubs based on a variety of interests. School musicians perform difficult compositions with ease. The school has a social life of its own. It competes with other schools in athletics, but maintains an intramural program as well. A modern gymnasium is now found in nearly every small town in the state and it is much used by school and community.

Many new services are necessary if education is to function properly. A health program has been recognized as a need. Guidance systems with their attendant records, counselors, and experts have appeared. School libraries are recognized necessities. Visual aids of many sorts are available in ever-increasing numbers and values.

School trips are common. You may see buses from the Wolverine State in Washington or Chicago or Buffalo. School camping projects are being tried in Michigan.

An interesting development in education in Michigan is the increasing co-operation of schools and industry. School officials have visited industries in numbers, and industrialists have appeared at many career days. Students have been given credit for working part time, and apprentices have been sent to school to take their related training in the classroom.

The increased enrollments have brought into the school students who need special aid. Some of them have physical problems, of which sight and hearing deficiencies are the most common. Others have emotional and behavior difficulties. Michigan has acted to provide aid for these people. As a consequence we find special schools, a visiting teacher program which gives skilled assistance, and children's clinics with psychiatric help, all watched over and largely supported by a friendly commonwealth.

It would be foolish to pretend that Michigan has solved all of its educational problems. Some of the worst features of the past linger on with the present and probably will not disappear in the immediate future. School conditions which were prevalent before the turn of the century, as described by your grandfather and great grandmother, can still be found in some places. Saving the best of the past and building upon it for the future is Michigan's intention. There is a great need for trained teachers, particularly for elementary teachers. There is a great need for more buildings. There is the constant need for understanding among school and home and community. There always will be problems, but the American faith in the value of education for all the people is well illustrated in Michigan.

Central Michigan College of Education

GERALD L. POOR

10. The Arsenal of Democracy

In the years that lie immediately ahead, what of Detroit, that strangely exciting city that changed almost overnight, it seems in retrospect, from a somnolent midwestern town to a pulsing metropolis?

There are people living in Detroit today who actually believe that the old city did not come to life until the dawn of the present century.

One wonders what will be the future contribution of this great industrial community, from whose factories the tools of war were spewed in such enormous quantities and of such superior quality that its people like to say, if they do not actually believe it, that the two world wars were won right here.

The present outlook seems to be that Detroit, whose culture is one hundred years older than that of Chicago and not so many years less than that of Boston, now has, at last, an opportunity to catch up with itself spiritually.

The city is engaged in a great building campaign designed to emphasize its gracious side. The terrific energy and the technical know-how that had to be devoted to the immediate problem created by World War II has been channeled in other directions. Detroit is using its skills to rebuild on a broader spiritual scale.

So, work is already under way on river-front projects that for many years have been but dreams. The Veterans Memorial Building was completed in 1950. The cornerstone for the City-County Building was laid in 1953. The site for a great civic auditorium, named for Henry and Edsel Ford, was dedicated in 1952. A convention hall and a great river driveway are planned. These downtown civic developments will provide the oldest city in the Midwest with a civic center appropriate to its wealth and importance.

Uptown, in the area where Wayne University has been housed in old homes, abandoned stores, and even garages, a great modern campus is coming to life. By the end of 1953, Wayne University had a new State Hall, Science Building, additions to the engineering building and medical school, the Kresge-Hooker Science Library, the General Library, and the promise of a Community Arts Building. Nearby a historical museum and an international institute, on an axis

with the Detroit Public Library and the Detroit Institute of Arts, were completed in 1951. These buildings, built and to be built, are the fruits of the dreams of those busy individuals who go to make up the pattern of the Arsenal of Democracy.

Another project close to the heart of patriotic Detroiters is the building of a huge stadium, of sufficient size to accommodate the Olympic Games, which the city expects to come its way in the not-too-distant future.

In 1951, Detroit celebrated its two hundred and fiftieth birthday with a pageantry of picturesque historical activities and the dedication of the Historical Museum.

And it is reasonable to think, in the dawning of this development that, more than that of most great cities, the history of Detroit is the story of individuals and their dreams, and the energy they threw into the realization of them.

Detroit was never a seat of national government, radiating power. It was never the center of immense natural resources, attracting men to develop them. It was never the terminus of important routes of trade; the Great Lakes were an avenue for ships that passed and did not stay, and the city was off the main trails that were beaten on the land. The city's geographical advantages were far surpassed by those of other cities of far less stature. To find the reason for Detroit's aggrandizement, one must look for other factors than these. The answer is to be found in a long succession of forward-looking, ambitious men, who dreamed and worked and made their dreams come true.

For more than a century after its founding in 1701, Detroit remained an insignificant outpost. Then the migrations from the East began to fill the Northwest and brought a few men of consummate vigor and imagination. One of the first was Lewis Cass, governor of Michigan Territory at the age of thirty-one. He traveled about to see what was there; he made treaties with the Indians, insuring the safety of settlers; he destroyed the fable that Michigan was a wild and worthless land. He helped all the pioneers who had ideas—men like the adventurous Henry Rowe Schoolcraft and Douglass Houghton, discoverer of the Upper Peninsula's wealth of copper, and his map-maker, Sylvester Higgins.

In the wake of these great men came the lumber barons, who made Detroit their headquarters, and Eber Brock Ward, who rolled the first

bar of industrial steel in all America in his mill at Wyandotte. He was the city's first millionaire and for a long time its only one.

Industries were founded and grew, became of national importance, because of the dreams and the plans of Detroit individuals. But still the city merely kept pace with others in its region. Then a Detroitier built a gasoline engine that would move a buggy and had a vision of a nation going about its business and its pleasure in low-priced vehicles propelled by power that could be purchased anywhere and everywhere.

Other men with dreams like Henry Ford's hastened to Detroit; the city, because of them, became the center of the world's automotive industry.

Thus World War II found Detroit equipped, as no other city, to manufacture armament. The making of cars ceased and the factories that had been engaged in building them began to make arms for the defense of man's freedom everywhere. They called Detroit the Arsenal of Democracy.

What will these men make of Detroit in the years of peace we all so fondly hope stretch far into the future?

Detroit News

GEORGE W. STARK

LONG, LONG AGO

II. The Indian Way of Life

This is the forest primeval; but where are the hearts that beneath it
Leaped like the roe, when he hears in the woodland the voice of the
hunterman?

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Scattered like dust and leaves, when the mighty blasts of October
Seize them, and whirl them aloft, and sprinkle them far o'er the ocean,
Naught but tradition remains. . . .

—Longfellow, "Evangeline"

To write anything about the Indian way of life means to go back behind tradition to a time before the white man came. Michigan then was a land of dense forest studded with lakes and intersected by rivers. Here lived a primitive people that were divided into tribes and bands. They were the Chippewa, Ottawa, Potawatomi, Menominee. Also must be included the Hurons of Iroquois stock who had borrowed a place among their neighbors and joined in a confederation with them.

In that ancient day, life was stern and picturesque, perhaps, but not comfortable. The Indians adapted themselves to it with wonderful resourcefulness. They lived in flimsy, bark-covered wigwams that were by no means fixed habitations. To move meant hardly more than to pour water on the fire and call the dogs. In the winter they found shelter in the forests; in the summer they returned to the lakes and streams with nearby uplands for their gardens. Certain well-known fishing sites attracted them; the "Soo" with its whitefish, and Mackinac with its whitefish and lake trout. Wherever the perch and other fish were running, there they were camped.

Not only were they expert fishermen, they were adept at hunting and trapping also. The buffalo came up to the edge of their hunting grounds in the south; in the north were the moose and the wapiti,

and the deer were everywhere. The Indians knew the way of the wild creatures as white men could never know. They were Nature's children and schooled in the lore of the wilderness.

The men were the hunters and warriors; the women attended to the drudgery of the camp and gardens. Though they were semi-nomads, they preferred certain special localities for their agriculture. Almost any of our inland lakes in fertile sections show traces of old village sites: corn storage pits, broken pieces of pottery and flint arrow-heads, a long-forgotten stone ax, or hammer stones. We must not forget that our Indians lived in a stone-age culture. It was here when the first French explorers and missionaries came.

The great staple of Indian food was corn, a semidwarf variety which our early settlers knew as "squaw corn." It was planted in "hills," a practice the colonists took over. Down river from Ypsilanti old Indian corn fields were still recognizable thirty years ago.

Besides corn, the Indians raised squashes, pumpkins, and beans, but probably not much tobacco. However, they had a substitute for it, *kinikinic*, made up of the powdered bark of various shrubs, with an admixture of real tobacco when they could get it. Intertribal trade existed everywhere. In addition to tobacco from near at home, our Indians got pipestone from the Sioux country, and wampum shells from the Atlantic Coast and the Gulf of Mexico. Now and then a piece of obsidian came into their hands from the Southwest. Their Lake Superior copper was for them an important medium of exchange.

In their wanderings the Indians followed well-established trails up and down the Lower Peninsula and in the region south of Lake Superior. Their ingeniously made snow shoes facilitated moving about in the winter. They traveled the Great Lakes and the inland waterways in bark canoes which were the cleverest small craft ever devised by primitive or civilized man.

Though savage, the Indians were remarkable human beings. In physique, they were athletic and hardy; in mind, within the compass of their narrow existence, they were keen and alert. If they hated their enemies, they made up for it by an intense loyalty to their friends. They did not forget kindness. A strange integrity characterized them. They were swayed by their emotions, and they held communion with beasts and birds, the forces of nature, and the spirit world.

The Indians possessed a keen sense of justice which the white man repeatedly violated. He made treaties with them which he did not keep; he made promises which he forgot; he trespassed upon their lands and tribal rights.

This the Indians resented, sometimes with the tomahawk, sometimes with bitter invective in conferences and councils. On such occasions, when they reviewed the wrongs they had suffered, their orators rose to heights of eloquent and impassioned speech. Their mother tongue lent itself to this. Full of symbolism and imagery, it could be used with powerful effect. Listeners, white and red, were thrilled and held spellbound.

Chief Simon Pokagon was the last of Michigan's great Indian orators. He made an eloquent address in behalf of his people at the World's Fair in Chicago in 1893. He delivered a farewell appeal at a home-coming in Elkhart the following year. He closed as follows:

But our camp fires have all gone out; our council fires blaze no more; our wigwams, and those who built them, with their children, have disappeared from the land. Where cabins and wigwams once stood, now glisten in the sunshine cottages and palaces erected by another race, and where we walked or rode in single file along our woodland trails now locomotives scream like beasts of prey as they rush along their iron way. I must close. I am getting old and feeble, and in all probability none of you will ever see my face again this side of the Happy Hunting Grounds.

With the coming of the white man the Indian way of life changed sadly and suddenly. Their stone-age economy vanished, and what replaced it was alien to them. They became wanton commercial hunters and trappers, and exchanged their peltries for the goods of the trader. They developed an inordinate fondness for fire water which debauched their morals and dulled their finer feelings. They fell an easy victim to the white man's diseases. New dress, new housing, new weapons, new everything, completed their decline. When they had nothing else left to save, the white man tried to save their souls, but it was too late; their downfall had been accomplished. It was too bad about them.

Ypsilanti

R. CLYDE FORD

12. The Contest for the Great Lakes

Michigan has been called the child of the Great Lakes. Lying within their close embrace, she draws from them much of her well-being. The winds, tempered by these great bodies of water, give Michigan a more moderate climate than that of other states in the same latitude. The lakes also support a great fishing industry, and they are invaluable as highways for the ships which carry ore and grain, machinery, and coal to and from the harbors of the state.

It was the lure of the lakes that first attracted white men to Michigan. Eager to discover a water route to the Pacific, explorers set out in search of the great seas which the Indians said lay to the westward. One of them, Etienne Brulé, probably reached the Upper Peninsula in 1622, and Jean Nicolet touched the shores of Michigan in 1634.

They did not find the ocean, but they opened the way to a country teeming with furbearing animals. Soon hunters in frail canoes were braving the dangers of the lakes. From Michigan and the surrounding region they returned to Montreal with beaver, fisher, mink, and otter skins which commanded high prices in Europe.

The Indians who were dwellers about the lakes welcomed Frenchmen to their wigwams. They guided them along trail and stream, taught them how to make canoes, and how to feed and shelter themselves in the wilderness. Glad to exchange furs for cloth, guns, knives, and other goods, they provided rich cargoes for the wide-ranging traders.

Priests followed explorers and traders. Fathers Isaac Jogues and Charles Raymbault preached to the Chippewa at Sault Ste Marie in 1641, and Father Jacques Marquette founded an Indian mission there in 1668. The priests wrote reports on the regions which they visited, and it is to them that we are indebted for nearly all our knowledge of plants, animals, and Indian customs of the early days.

Dauntless French explorers added countless square miles to the domain of Louis XIV. In 1671 the Sieur de St. Luson at Sault Ste Marie took possession of all the western country for his king.

Setting out from St. Ignace in 1673, Louis Jolliet, accompanied by

Father Marquette, discovered the Mississippi River; and eight years later the Sieur de la Salle, starting from Fort Miami which he had built at the mouth of the St. Joseph River in Michigan, went down the Mississippi to the Gulf of Mexico and claimed the vast river valley for France.

If the devotion of priests, the endurance of *voyageurs*, the bravery of explorers, and the proclamation of St. Luson had been enough, Michigan today would be a French colony. To win and hold a region, however, people must settle in large numbers and make good use of its resources. The French were too much occupied with hunting. Few were willing to leave France for the New World, and the King excluded foreigners from Canada. Because only Frenchmen who were Catholics were admitted, the population remained small. In 1689 there were only twenty thousand people in the immense area claimed by Louis XIV.

In contrast, the English colonies on the Atlantic coast were growing rapidly. Eager to settle in America where they might worship as they pleased and where land was plentiful, people left England in large numbers, and colonial proprietors welcomed foreigners. To the English colonies came Scots, Irish, Dutch, Germans, Swedes, and even Frenchmen; the latter being Huguenots—Protestants who had fled from France and were not permitted to enter Canada. The population in 1689 was three hundred thousand.

Englishmen also were attracted to the Great Lakes region by the desire for furs. In order to intercept them and hold the land for France, Daniel Greysolon Duluth in 1686 built Fort St. Joseph (Port Huron), Fort de Baude was erected in 1690 at St. Ignace, and the next year the Sieur de Courtemanche constructed another Fort St. Joseph in southwestern Michigan (Niles). Detroit had its origin in 1701 when Antoine de la Mothe Cadillac built Fort Pontchartrain on the Detroit River to check English expansion and to serve as the nucleus of a settlement.

A series of wars between France and England, beginning in 1689 and continuing for seventy-five years, involved their colonies in America. Although no fighting occurred in Michigan, Frenchmen and Indians from that region took part in the final struggle, the French and Indian War. Quebec and Montreal were taken by the British, and the French surrendered in 1760. On November 29,

Major Robert Rogers, the famous ranger, reached Detroit with a British force and occupied the fort. Small garrisons were posted also at Fort St. Joseph (Niles), Michilimackinac (Mackinaw City), and at Sault Ste Marie. Michigan and the lakes became British territory officially by the Treaty of Paris in 1763.

Many Indians resented the intrusion of the British. Urged on by some of the French, Pontiac, war chief of the Ottawa, attacked Detroit on May 9, 1763. Major Henry Gladwin, the commandant, stubbornly defended the fort, but the other posts in Michigan, St. Joseph and Michilimackinac, were taken by the savages. The uprising spread until every fort west of Niagara and Pitt, except Detroit, was captured; but Pontiac, disappointed by his failure at Detroit and realizing that the white men had come to stay, made peace with the British.

During the Revolutionary War, Lieutenant Governor Henry Hamilton at Detroit sent war parties into Kentucky. To stop these murderous raids, George Rogers Clark planned a counteroffensive against Detroit. Hamilton advanced to Vincennes to intercept him. Clark captured the fort there and took Hamilton prisoner, but he had insufficient men for a further campaign. So greatly did the British fear his coming, however, that Fort Lernoult was built at Detroit, and Lieutenant Governor Patrick Sinclair, for greater security, moved his garrison from the mainland to Mackinac Island where he constructed the fort that still stands on the ridge above the harbor.

Michigan was ceded to the United States by the Treaty of Paris in 1783, but for thirteen years the British held the western forts, including those in Michigan, to protect the fur trade, and they supported the Indians in their hostility to Americans. On August 20, 1794, General Anthony Wayne decisively defeated the Indians in the Battle of Fallen Timbers, near the present Toledo, Ohio. Realizing that the United States was now strong enough to take Detroit, the British agreed to give up the western posts.

Lieutenant Colonel John F. Hamtramck, commandant of the First United States Regiment, sent Captain Moses Porter with an advance detachment to Detroit. Porter, on July 11, 1796, raised the flag of the United States over Fort Lernoult. Mackinac was occupied on September 1. Colonel Hamtramck took command of Detroit on July

13, and a month later General Wayne arrived. With him came Winthrop Sargent, acting governor of the Northwest Territory, who established Wayne County and organized civil government. Michigan was now within the United States.

Although apparently the contest for the lakes had been decided by apportioning their waters between Great Britain and the United States, there was still to be another war in which control of these inland seas was at stake. In 1812 British forces from St. Joseph Island and Fort Malden with their Indian allies captured Mackinac Island and Detroit. Desirous of pleasing the savages and regaining control of the fur trade, the British government planned to turn the region north of the Ohio River into an Indian reservation.

However, Oliver Hazard Perry's victory on Lake Erie, the reoccupation of Detroit by American troops, and General William Henry Harrison's defeat of General Henry A. Proctor on the Thames River in 1813 left only Mackinac in the hands of the enemy. By the Treaty of Ghent in 1814 the boundaries existing before the war were reinstated, and Great Britain and the United States resumed their divided sway over the inland waters. In 1817 the Rush-Bagot Agreement limited naval armament on the lakes. From that time onward Ontario and Michigan have been good neighbors, separated only by a boundary line instead of by threatening forts and warships.

University of Michigan

F. CLEVER BALD

13. The Americanization of Michigan

In two short decades Michigan passed from the French to the American way of life. In 1815 it was still a French colony in spirit although it had been under English and American rule for half a century. The civil officials and military personnel were from the eastern states and some of the traders were Scots, but the rest of the non-Indian population was mostly French, clustered about the forts at Detroit and Mackinac. Yet twenty years later, when the territory was ready for statehood, the people of Michigan were predominantly from New England and New York. In that short period Michigan ceased to be French and became American.

The Erie Canal, completed in 1825, had turned loose a flood of westward-moving settlers. Until then the pioneers had followed rivers such as the Ohio and roads such as the National to fill up Kentucky and southern Ohio, Indiana, and Illinois. Those were the easy routes west; and so the families in river flatboat or Conestoga wagon had passed far to the south of Michigan. But the new Erie Canal running across the middle of New York state offered easier, cheaper transportation from New England and the Mohawk Valley to Lake Erie. Settlers came to Buffalo by canalboat, by sailing vessel or steamer to Monroe, Detroit, Saginaw, Grand Rapids, or St. Joseph, and then by wagon along the roads that led inland. For each family the migration stopped when it had found land that could make a farm or a home.

As the French came seeking furs, so the Yankees came seeking land—land for farms like those they had known along the Genesee, the Mohawk, the Connecticut, or the Merrimac rivers. In Michigan where land was cheap—the government price was one hundred dollars for eighty acres—a laborer could become a farmer, a tenant could become an owner, and a father could provide farms for his growing sons. So truly was Michigan a land of opportunity that in the 1830's easterners complained of the "Michigan fever" that seemed to infect everyone and threatened to depopulate eastern communities. The pioneers came individually or as families, and even as whole communities like that which settled Vermontville. They settled the

prairies and oak openings and wooded uplands across the southern one third of the state. The wrist of Michigan's mitten was filling in.

Farms were carved out of the Michigan wilderness in the image of those that had been left behind. It was a crude image to be sure, but the traveler seeing those houses and barns, fields and fences, would be reminded of rural New York and New England. For these were not Daniel Boones seeking escape from their neighbors, but men seeking to own their farms or stores or mills rather than rent or work for wages. They might build a log cabin, but they hoped for the day—which came—when it could be replaced with a white-painted, Greek-gabled, frame house. They cleared a plot of land, enough to plant a crop of wheat, for wheat was the cash crop. It provided the money with which to buy salt, tea, kettles, shoes, plows, and fittings for that new house, and land—more land.

So, too, did these easterners seek to re-create the civilization they had left behind. The churches, schools, towns, and roads were not something from which they fled, but something which they sought to duplicate in the west. In the little villages that grew up around the water-powered gristmills, one saw the central plot of green flanked by the transplanted New England schools, complete with its "three R's," and the Congregational, Presbyterian, Methodist, or Baptist churches with their strongly evangelical theology. Here was the town-meeting from New England to which had been added, in the New York sojourn, a supervisor who sat on the county board. Here were newspapers with news of Boston, New York, Washington, and the world. Picking up such a paper in Michigan in 1835, an English traveler wrote "it could happen nowhere out of America, that so raw a settlement . . . should have a newspaper." Michigan was becoming American.

Somehow French culture was being absorbed and lost in the American even as French names were being outnumbered by Anglo-Saxon ones. The pattern in 1837, when Michigan became a state, was Yankee.

But it has not remained completely Yankee. In the past century the Dutch, German, Cornish, Scandinavians, and Slavic peoples, as well as the great migrations out of the southern states, have modified our cultural patterns. That blend we call American.

Michigan State College

MADISON KUHN

14. The Struggle for Human Rights

For more than a century Michigan has been a place where people have come to better their station in life. Over these years there has been opportunity in Michigan to attain a better standard of living and to escape the restraints of older and more confining communities both in America and abroad. Michigan settlers, although coming from various national and racial backgrounds, emphasized human rights and supported organizations advocating social reforms.

The struggle for freedom in Michigan centered about many causes, but the one which attracted the largest number of ardent followers and caused the most dissension and discussion was the abolition and antislavery movement. Most farmers and working men felt that free labor and slavery could not exist together; that the spread of the slave system would endanger their security. While most Michigan people personally disapproved of slavery and were against the extension of the system into the territories, only a small number were abolitionist. Although small in number, and frequently a persecuted group, the abolitionists were proportionately and actually more numerous in Michigan than in any other state of the Old Northwest.

The religious factor greatly influenced Michigan people in opposition to slavery. Almost without exception the leaders in the movement were motivated by religious convictions that human bondage was contrary to the spirit of Christianity. The Quakers or Friends as well as Presbyterians and Congregationalists were active in the organization of antislavery societies and in assisting runaway slaves to escape to Canada. The Methodists were divided over the question. A radical antislavery group broke away in 1841 and formed the Wesleyan Methodist Church of Michigan. Presbyterians and Baptists also divided over the slavery issue into northern and southern bodies.

The most colorful and dramatic activity in the antislavery crusade was the conducting of what is familiarly known as the underground railroad. It was an informal organization of antislavery people who harbored fugitive slaves and at night passed them on to a friend and fellow abolitionist, who in turn repeated the process until the fugitives were ferried across the Detroit River into Canada. Most towns

and villages in the lower two tiers of Michigan counties had a "station" on this railroad. This whole underground practice was illegal. It was a direct violation of the constitution and the "conductors" were subject to fines. Many conservatives looked with disfavor upon this disregard for law, this attack upon property in slaves, since respect for all law might easily be destroyed. Devoted men and women, however, such as Erastus Hussey and Laura Haviland, confident in the righteousness of their cause, labored night and day to deliver escaped slaves to havens of refuge.

The antislavery groups were divided among themselves as to whether they should form a political party or conduct a moral crusade only. After a spirited contest some endorsed the Liberty party in 1840, which was headed by James G. Birney, a Michigan man. In 1848 the group merged with the more moderate Free Soil party, and although it polled a large vote in Michigan, Lewis Cass, the native-son candidate of the Democratic party, won the popular vote of the state.

In the spring of 1854 Congress debated the Kansas-Nebraska bill which was designed to create the territories of Kansas and Nebraska without a restriction on slavery. Many Michigan people who held no sympathy for the abolitionist cause were alarmed over the possibility of slavery extension northward. They looked upon the west as a region to which they or their children might, if calamity overtook them, migrate to start life anew.

The present-day national Republican party grew out of the widespread dissatisfaction over the passage of the Kansas-Nebraska Act. Michigan's Free Democratic party in the February, 1854 convention had agreed to join any movement to forward the antislavery cause. Liberal Whig editors in Detroit and elsewhere were active in forwarding a union of all antislavery elements, and they circulated a petition calling for a fusion convention. On July 6, 1854, a great mass meeting was held at Jackson. It was attended by individuals from the liberal elements of the two major parties as well as by the abolitionists. More than fifteen hundred persons assembled. Because no hall in Jackson was large enough, they adjourned to an oak grove on the outskirts of the town. The leaders of the groups uniting in this protest movement had carefully planned the proceedings of the convention. The speakers represented all shades of opinion on the

slavery issue. An escaped slave named Lewis Clark, said to be the original of George Harris in *Uncle Tom's Cabin*, addressed the assembly. Finally the convention passed a series of resolutions condemning the extension of slavery and resolved, "That in view of the necessity of battling for the first principles of republican government, and against the schemes of aristocracy . . . we will co-operate and be known as *Republicans* until the contest be terminated." A majority of the candidates and a large portion of the membership of this coalition were Democrats, including Kinsley S. Bingham, the candidate for governor around whom the factions rallied.

The election that year, 1854, proved to be a victorious one for the newly formed "Republicans," reversing the succession of Democratic victories in the state which had only once been broken by the Whigs. For nearly thirty years thereafter, the Republicans were successful in state elections, despite the fact that both the personnel and aims of the party changed considerably.

Before the Civil War, the party received support from most liberal and reform groups, which caused it to be criticized as merely a collection of radicals and disturbers. The party gained strong backing from rural areas through the demand that the national domain be given to actual settlers, rather than sold to speculators or settlers merely to help support the government. Thus the early Republican party stood strongly for human rights over property rights on the slavery issue and for a liberal distribution of governmental land to the poorer citizens to encourage a wider sharing of the national domain.

Many of the same people who frowned upon the slave system also disfavored social practices and customs, such as the liquor traffic and Sabbath desecration. The temperance crusade of the 1850's vigorously attacked the liquor traffic as being degrading to human dignity and sinful. A series of state and local option laws were enacted. The temperance crusade through effective organization, pledges, and rallies won a majority of the people to the cause despite the fact that enforcement of the laws became less successful year after year.

Thus the period immediately preceding the Civil War was marked in Michigan by the attainment or attempting of many social reforms, a clear-cut decision on the slavery extension question, and the creation of the Republican party by the reform forces.

Detroit Historical Society

HENRY D. BROWN

15. Trails and Rails

When the French came to Michigan they found many Indian trails criss-crossing the area. Three or four of them were destined to become especially important: the Saginaw Trail from the Detroit River to Saginaw Bay which continued north to the Straits of Mackinac, the trail later known as the Chicago Trail from the Detroit River to the southern end of Lake Michigan, the Mackinac Trail from the Indiana line through Grand Rapids to the Straits, and the Washtenaw Trail from the mouth of the St. Joseph River to the Detroit River. The French, few in numbers, did nothing to improve these trails and left them practically as they found them. Since their chief vocation was fur trading, they had no need for roads in the modern sense.

During the thirty-five years Michigan was in the possession of the British and for the first nineteen years of American rule, the territory's land transportation facilities remained practically unchanged. The first impetus for roads came as a result of the War of 1812—a conflict which taught the national government the absolute need of roads, if Michigan was to be defended successfully against an enemy who had control of the Great Lakes. As a result of this belated discovery, Congress authorized the survey and construction of roads in the territory. The five most important of these (not all of them were completed at this time) were: from Detroit to the Maumee River; from Detroit to Chicago through the sites of present-day Ypsilanti, Jonesville, Sturgis, and Niles; from Detroit to Grand Rapids; from Detroit to Saginaw through present-day Pontiac and Flint; and from Detroit to Port Huron. It will be noted that two of these followed the line of the two most important Indian trails, the Chicago and the Saginaw. All of these roads except the one to the Grand River were primarily of military significance. However, along these dirt roads, which were often in such poor condition that our worst contemporary rural roads would have been preferable, the settlers began pouring into Michigan.

Soon the demand for more and better transportation facilities arose, and the legislators and business men of Michigan heeded the cry as

well as they could—sometimes wisely and sometimes not so wisely. As early as 1829, the territorial legislature made provisions for the construction of a road from Detroit to the mouth of the St. Joseph River. This road, usually known as the Territorial Road, tapped the rich agricultural land of the second tier of counties and had a great influence in the development of Jackson, Marshall, Battle Creek, and Kalamazoo. After Michigan became a state, the legislature entered upon an overambitious program of internal improvements. The law makers were induced to do this not only because of the evident need for better transportation facilities, but also because of the prevalent optimism of the business world and the demands of land speculators. The program, which provided for the construction of three railroads and three canals, besides the improvement of rivers, remained largely on paper. However, the railroad through the southern tier of counties was constructed from Monroe to Hillsdale, and the one through the second tier of counties from Detroit to Kalamazoo. The one from the St. Clair River to Lake Michigan through Grand Rapids was not even started. Anyway, it must be noted these early planners, even if overenthusiastic, selected strategic places for their projects, as is evidenced by the fact that lines are now running where they had planned to construct them.

After the state sold its two railroads to private companies in 1847, both the Michigan Central and the Michigan Southern were rapidly extended until they reached Chicago. In the meantime, private enterprise had also been engaged in railroad building. In fact, the first railroad actually constructed in Michigan, the Erie and Kalamazoo, running from Toledo to Adrian, was built by a private company between 1833 and 1836. By the beginning of the Civil War, there were three main lines in the state, the Michigan Central, Michigan Southern, and the Detroit and Milwaukee, which connected Detroit with Grand Haven by way of Grand Rapids. These three had more than three fourths of the total railroad mileage in Michigan at that time.

The railroads built during this period could not adequately solve the transportation problems of the state. Ordinary dirt roads were still the main reliance of the majority of the inhabitants. These were not satisfactory. In wet weather they became quagmires and in dry weather they were very dusty and full of ruts. The rate of speed on them was usually slow even for those leisurely times. In

order to improve these conditions, private companies were organized to construct plank roads. The state usually prescribed, at first by special charters and later on by law, the width of these roads and the thickness of the planks, as well as the amount of the tolls. These roads were a big improvement over the old dirt roads, if they were kept in condition, but repairs were expensive as the forests receded. By the beginning of the Civil War, the plank road era was drawing to a close. They were superseded by gravel roads, which were sometimes built by private companies but more often by counties or townships.

The development of railroads after 1860 was stimulated by at least three factors in addition to an increasing population: the increasing exploitation of the state's natural resources, especially lumber; federal land grants; and state swamp land grants. Although lumbering started to become big business before the Civil War in the Lower Peninsula, its peak was probably not reached until the 1880's. Thus after the war a demand arose for railroads in the lumbering regions of the northern part of the Lower Peninsula. Coincidentally and for some time preceding, railroad building had been stimulated by liberal federal land grants to the companies as well as by grants of swamp lands made by the state. Altogether about five million acres were thus obtained by the railroad companies. This made possible among others the construction of railroads from Jackson through Lansing to Saginaw then north through Grayling to Mackinac; from Flint through Saginaw, Midland, and Reed City to Ludington; from the Indiana line through Grand Rapids to the Straits of Mackinac. The Upper Peninsula was especially helped by these grants, most of the railroads there being built as a result of such aid. These railroads played an important part in the subsequent development of that area. By 1900 Michigan's rail network was about complete.

During the last decade of the nineteenth century, it appeared to the casual observer that the state had a fairly adequate transportation system with its railroads, county and township roads, and a few privately owned turnpikes. However, rail travel was expensive and road transportation was slow. Speedier and cheaper methods were needed. The electric interurban which first started in Michigan about 1895 seemed to be the solution. Soon most of the southern part of the state was criss-crossed with this new type of conveyance,

at times to the decided detriment of the railroads. Their day, however, was destined to be brief, for the era of hard surfaced roads with its gasoline driven vehicles was close at hand. Their competition proved too great for the interurbans.

The automobile may be said to have entered the business world in 1900 when the Olds Motor Company manufactured about fourteen hundred cars. Other companies soon surpassed Olds in production. If the new industry was to become a profitable business venture, better roads were a necessity. Michigan saw the need as early as 1905 when a state highway department was created by law. In 1913 the legislature provided that three thousand miles of state trunk line highways be laid out. This was the beginning of our great arterial highway system of today. An impetus to the construction of this system came immediately in the form of federal aid for highways. Soon concrete highways began to appear. Coincidentally with trunk lines came the improvement of the urban streets. In 1923 provision was made that the Mackinaw Straits ferry should be a part of the highway system. In 1925 in order to obtain more revenue for road construction, the state began to collect a gasoline tax. Since that time, the expansion of Michigan's good roads has progressed rapidly. Two lane highways have given way to three, four, five, and six lane highways. Super-highways with practically no intersections are appearing. They are a far cry from the animal and Indian trails of three centuries ago. Will the road system continue to expand, or has it reached its top by coming into competition with airplane transportation?

Western Michigan College of Education JAMES O. KNAUSS

16. Great Lakes Waterways

The Great Lakes, discovered a little more than three centuries ago, rank today as the world's busiest waterway. In the narrative of their discovery, their growth, and present status, there is embodied more than half the story of our nation's westward movement and nearly the whole story of the development and progress of the state of Michigan. The transition from "the seas of sweet waters," as they were known to their French discoverers, to the golden waterways of a nation's thriving commerce in three hundred years has made the story of our inland seas as fast-moving and as fascinating as any piece of modern, popular fiction.

The Great Lakes witnessed the struggles between French and British and between Huron and Iroquois. Two of them were the scene of naval engagements during the War of 1812. Today they are the bond of peace and amity between two nations.

Scarcely had the United States gained possession of her present lake shore line, when she began to take her place on the high seas as a maritime power. On the inland seas too, her maritime prowess kept pace. During the French and English tenure of the lakes, fur trading, with transportation by canoe and bateau, was so lucrative an enterprise that these nations fought for the control of it. By 1800 there were many sloops and schooners on the lakes. After 1812 the sailing vessel became much more common than before. The type of sailing vessel unique on the Great Lakes was the fore-and-aft rigged schooner. For a century these picturesque craft carried immigrants and commodities to colonize the Middle West. It was not an unusual sight in the 1860's and 1870's to count fifty or a hundred sails on the horizon. But fast as was their growth and great as were their numbers, even more quickly and more completely was their extinction accomplished with the arrival of the steamship.

Steamships were to be found on Lake Ontario and Lake Erie soon after they were invented in the early years of the nineteenth century. Thenceforth steamers became the chief means of transportation to the west. The earliest lake steamers were the paddle-driven sidewheelers. In 1841, however, the Ericsson screw-drive was intro-

duced on the steamer "Vandalia." In twenty years the propeller, or screw-driven steamship, had risen to the ascendency in steam navigation and has held it ever since. Nevertheless, sidewheelers have continued in declining numbers to the present day.

Lake Superior was opened to interlake commerce with the completion of the Sault Canal in 1855. Until then the twenty-two foot difference in level between Superior and the lower lakes had proved an insurmountable barrier to navigation. This engineering achievement proved to be particularly timely, for we may recall that iron ore was discovered in Upper Michigan in the 1840's and in Wisconsin and Minnesota a few decades later. Meanwhile, too, the coal fields of Pennsylvania and Virginia were being exploited. Iron and coal were necessary commodities for the growing nation, and both found in the Great Lakes waterways the economical means of transportation. Iron ore was carried to the south and east, and coal to the north and west. Special ships were designed for this two-way bulk trade, and special handling facilities at terminal points were perfected to a high degree of efficiency. Such a fortunate combination of factors has produced for our lakes the most lucrative maritime enterprise in the world. The striking feature of the bulk carrying trade on the Great Lakes is the suddenness of its growth. Most of the cargoes carried three quarters of a century ago plus the ships which carried them could be stowed away in the hold of a modern carrier. And yet there are so many of these giant vessels on the lakes today that scarcely ever is one vessel out of sight of another.

While the timber stands of the Great Lakes area were being cut down, lumber was carried in rafts and on ships. Sailing vessels and special steamers performed this task for half a century after 1860. The lumber trade ceased when the forests had been levelled. Today's pulpwood trade is a last reminder of it.

The Great Lakes, in their discovery, their growth, their economic prosperity, their recreational facilities, and their vastness and grandeur, have contributed heavily to the development and attractiveness of Michigan. It has been stated that the lakes' history has been in no small measure the story of America in the making. If this is true, then the Great Lakes have indeed been, historically and actually, the chief motif in the epic of Michigan.

University of Detroit

THE REV. EDWARD J. DOWLING, S.J.

17. Copper and Iron for Industrial America

Copper and iron were discovered in the remote wilderness of Michigan about the time that gold was discovered in California. The scene was the south shore of Lake Superior, then a landlocked sea.

These discoveries opened new American frontiers. As it turned out, the copper and iron of Michigan became far more important in the development of industrial America than did the gold of California. Michigan copper went into the building of the nation's system of communication—the telegraph, the telephone, radio, and television—to give us a common, quick intelligence. Michigan iron, converted into steel, went into the building of our railroads and steamships, our farm machinery, our trucks and automobiles, our skyscrapers, and our water power and irrigation systems.

The Soo Canal, opened in 1855, was destined to become the greatest in the world because it made it possible to deliver these minerals to markets cheaply. At a celebration at the Soo Canal fifty years later, Peter White of Marquette, who had witnessed the opening, was entitled to say: "We may pause in wonder that so few and so feeble a people, living under so cold a sky, should have been permitted to share so largely in changing the seat of empire, and enlarging the happiness of mankind."

The story of Michigan copper and iron is indeed epic.

Soon after Michigan was admitted to the Union in 1837 a newcomer to Detroit was appointed state geologist and was sent to Lake Superior to investigate rumors of mineral deposits. He was Dr. Douglass Houghton, small, young, eager, and a trained scientist. His official reports confirmed the rumors and led eastern capitalists to invest money in amounts large enough to develop mines on a commercial basis. Houghton lost his life in a storm on Lake Superior in 1845 before he had finished his work.

The Michigan copper country extends from the tip of Keweenaw Peninsula southwesterly into the Porcupine Mountains, and upon this long ridge of rocky hills hundreds of mines were opened after 1843, when the famous Ontonagon boulder, a copper mass, was taken to Washington where it is now on display in the Smithsonian In-

stitution. Many of these mines were failures. In the years that followed, successful copper mining became stabilized in Houghton County where the famous Calumet and Hecla Mine was opened about the time of the Civil War. Houghton, Hancock, Laurium, Calumet, and a score of lesser places combine to make a distinct copper country community. Thousands of immigrant families, Irish, German, and Cornish early, and Finnish and Yugo-Slavic later, found American homes there and prospered.

Copper, in Michigan, is mined underground. It is unique because it is "native"—copper in almost a pure state mixed with the rock. It is recovered by crushing the rock, melting the metal so that it may be cast into ingots, which are drawn out in the form of wire.

Iron mining in Michigan is distinct from copper mining. There are three separate iron-mining communities. These are the iron ranges of Marquette, Menominee, and Gogebic. The cities of Ishpeming, Negaunee, and Marquette are built on the Marquette Range; the cities of Iron Mountain, Iron River, and Crystal Falls on the Menominee Range; and those of Ironwood, Bessemer, and Wakefield on the Gogebic Range.

Iron was first discovered on the Marquette Range near the present site of Negaunee in 1845. The government survey of the public lands, using the magnetic compass, disclosed the great extent of the deposits. It was in this connection that William A. Burt, a government surveyor, invented the solar compass.

Iron in Michigan, unlike copper, is an ore, mostly hematite—soft, earthy, heavy, dull reddish. It is mined underground, but on the Gogebic Range it is also mined from open pits by power shovels. Being an ore, it must be processed and converted into steel. Such conversion requires great quantities of coal. The practice in the steel industry is to take the iron to the coal. The iron was at the head of the Great Lakes and the coal was in the vicinity of the feet of the Great Lakes. Accordingly, Michigan iron ore is hauled by rail to the upper lake ports of Marquette, Escanaba, and Ashland, Wisconsin, where it is loaded from ore docks into the holds of the great lake-going ore carriers for delivery to Gary and Cleveland.

If nature had not provided the convenient geography of the Great Lakes, the history of America would be quite different than it is. We probably would not have our common high standard of living, and

we might not be able to wage successful war against our enemies. The summer visitor who stands on the promontories of the Upper Peninsula of Michigan to watch the "long ships passing" on the lakes beholds much more than a great panorama; he is watching the pulse beat of the nation.

Copper and iron have been mined in Michigan for a century. There are hundreds of abandoned mines now. But none was ever abandoned because there was no more mineral; they were left because it was unprofitable to work them. Michigan has almost unlimited quantities of copper-bearing rock in which the mineral is so finely divided that present methods to recover it are too costly. And Michigan has almost unlimited quantities of iron deposits of a poorer grade than that now mined. These great mineral reserves are known and mapped. The mining industry, in co-operation with the Michigan College of Mining and Technology at Houghton, constantly explores and experiments to find better methods of using these marginal resources.

This need to find new and better means of utilizing our remaining natural resources is the challenge of another frontier as real as that wilderness where the original copper and iron deposits were discovered a century ago. America is still "the land of opportunity."

Ontonagon

JAMES K. JAMISON

18. Lumber for a Nation's Homes

Only a hundred and twenty-five years ago every county in Michigan had abundance of timber of great variety with hardwoods of oak, maple, cherry, ash, elm, and beech predominating in the southern area, and with softwoods, chiefly of pine, cedar, and hemlock, growing on the lighter soils of central and northern Michigan. The presence of these great forests hindered the settlement of land, made pioneering difficult, and necessitated the cutting and burning of thousands of acres of timber. Log cabins, crops, roads, and villages were the first needs of hardy settlers. Every farmer used his ax to clear the land and build a cabin. He had huge log piles to burn; and every village had at least one sawmill. Lumbering began, therefore, out of just such local circumstances. But it required other men and other factors to develop the commercial lumbering for which Michigan became so famous.

Eastern timbermen, as well as speculators from Detroit, Saginaw, Muskegon, and Chicago, began to buy pine lands in whole sections, quarter sections, or in choice forties in the 1840's and 1850's. Besides, land grants to railroads and to canal and road companies tied up vast tracts of pine land for later sale to lumbermen and to settlers. Early prices seldom exceeded \$1.25 an acre and were sometimes half that amount or less. Laws loosely drawn and inadequately enforced, together with the utter lack of a timber land policy, favored the speculator and often invited fraud against either government or private absentee land owners. Fortunes were founded upon such early purchased pine holdings. Buyers in later decades found fewer bargains and higher prices.

Michigan rivers proved a great boon to getting the timber down to the coast mill towns of Muskegon, Saginaw, Bay City, Manistee, Menominee, Grand Haven, Escanaba, Alpena, Cheboygan, and Traverse City. From spring until late summer, streams floated logs either violently or lazily as water conditions dictated. By the middle 1870's several railroads were built into the forests to haul logs, lumber, and shingles out of the interior uplands and carry provisions for hundreds of lumber camps and way stations along the lines.

These lumber camps varied greatly in size, accommodations, and camp management. In large camps of one hundred men or in small ones of twenty-five, timber cutting was a contract job in which log output and costs had to be figured very closely for a margin of profit. The much romanticized lumberjacks worked long hours in groups as choppers, sawyers, swampers, skidders, loaders, or drivers; ate heavily but generally well; and then slept in over-heated, unventilated bunk shanties. They entertained themselves between supper and bedtime during the months of bleak winter isolation by telling yarns and jigging to tunes and verses of an improvised sort, which were later valued as a unique contribution to folk literature. Men of all sorts and temperaments hired out to these camps in September, labored all winter, and rushed back to the mill towns at the breakup in the spring with varying thirst for drink and desire for love and loved ones. These same men found work again in the sawmills or on the farm from April to the next September.

In the 1870's Michigan had more than sixteen hundred sawmills. Some \$28,000,000 were invested in those mills which sawed more than three billion board feet of pine lumber yearly. The McGraw mill at Wenona (Bay City) was called the world's largest mill, with a capacity of forty million board feet a year and a maximum of three hundred sixty thousand in a twenty-four hour period. Most mills varied from three to fifteen million capacity, were flimsily constructed, and were frequently destroyed by fire. Mill production increased yearly by use of power saws of improved capacity: the gang, the circular, and the band saw. Every log in the sorting pens carried the distinctive mark of its owner for identification. Each mill stood on the banks of a river or a lake so that by means of an endless chain with lugs, logs were carried up an incline trough to the second floor of the mill. There they were conveyed back and forth on a carriage through saws which ripped off planks. The planks then went on through other processes of edging and planing, then down long slides or conveyor belts to the drying yards for piling.

Michigan pine, cedar, and hemlock found ready markets wherever a soft, easy-working wood was wanted for construction of homes, stores, and farm buildings. These woods were used as planks, boards, timbers, window sash, doors, shingles, flooring, and siding. The big wholesale markets were in the east, at Tonawanda, New York, near

Buffalo; at Albany and Cleveland; and in the west, at Chicago. Chicago became the jobbing center from which huge quantities of Michigan lumber were shipped to the treeless prairie and plains states beyond. Prices of rough lumber were low by modern standards. They ranged from less than \$10 to \$30 a thousand board feet, depending upon the quality, the market, the season of the year, and the general level of prices. Prices fluctuated widely under pressure of competition and uncontrolled timber cutting. Michigan pine made families of fortune, including such names as Ward, Blodgett, Merrill, Hill, Palmer, Hackley, Sands, McGraw, Hannah, Carpenter, and Ludington.

More than one hundred sixty billion board feet of sawed lumber issued from Michigan sawmills over a sixty-year period. Its value was estimated at more than \$2,225,000,000. California's gold, in a like period, fell short of the value of Michigan pine by nearly \$1,000,000,000.

Tragedy, waste, and grave problems followed the slashing of pine, hemlock, and cedar as well as oak, maple, ash, and beech. Fires burned over whole townships as well as villages and towns. Light soils gave out quickly under ill-advised farming in barren cutover areas. Families, whose crops were either frozen out, burned out, or just failed to grow abundantly, were themselves starved out and soon abandoned unproductive crop land for employment elsewhere. Gradually these abandoned farms and forest tracts were defaulted to the state. Fifty years later under a new public policy of conservation many of these areas were put to use as new state forests, game preserves, or state parks.

Central Michigan College of Education ROLLAND H. MAYBEE

BOOKS AND MATTERS OF FACT

19. Years That Are Remembered

- 1634 Jean Nicolet touched the shores of Michigan.
- 1671 The Sieur de St. Luson took possession for the king of France.
- 1701 Detroit founded by Antoine de la Mothe Cadillac.
- 1760 Michigan passed from French to English rule.
- 1783 England ceded the area to the United States.
- 1796 American control over Michigan finally asserted.
- 1805 Territory of Michigan established with William Hull as governor.
- 1814 Treaty of Ghent returned Michigan to the United States.
- 1825 Erie Canal opened a new water route to Michigan.
- 1828 Historical Society of Michigan founded by Cass and Schoolcraft.
- 1835 First Constitution adopted.
- 1836 Erie and Kalamazoo Railroad began operation.
- 1837 Michigan admitted to the Union as the twenty-sixth state.
- 1845 Cliff copper mine opened.
- 1846 Iron mining in Michigan began at Negaunee.
- 1847 Holland founded by Dutch settlers led by Van Raalte.
- 1848 Capitol moved to Lansing; plank road companies chartered.
- 1854 Republican party founded at Jackson.
- 1855 Sault Canal opened the Lake Superior region to commerce.
- 1870 Michigan had more than sixteen hundred sawmills.
- 1886 One fifth of Detroit's population supplied with running water.
- 1889 Michigan Federation of Labor formed.
- 1899 Forestry Commission established.
- 1904 Ransom E. Olds achieved mass production of automobiles.
- 1908 Present state constitution adopted; appearance of Ford Model T.
- 1912 Workmen's Compensation enacted.
- 1913 Michigan Historical Commission established by the Legislature.
- 1920 WWJ began regular radio broadcasts.
- 1920 First census to show more urban than rural residents.
- 1921 State Administrative Board established; first highway bond issue.
- 1930 Detroit-Windsor tunnel opened.
- 1936 United Automobile Workers founded.
- 1941 Construction of Willow Run begun.

Highland Park

ELLEN C. HATHAWAY

20. Selected Statistics

Manufacturing—

1. In 1947, Michigan had 9,892 manufacturing establishments employing almost one million persons. Over 4,700 of these establishments were in the Detroit Metropolitan area.

2. Over \$3,000,000,000 was earned by the employees of Michigan factories in the year 1947.

3. The raw materials which enter Michigan factories are nearly doubled in value during the manufacturing process.

4. The ratio of men to women working in Michigan factories is about six to one.

5. December is the best month for employment in Michigan, and August is the poorest month.

6. About 400,000 persons are employed in the manufacture of motor vehicles, parts, and accessories in Michigan.

7. The average wage earner in Michigan factories makes over \$75.00 per week (\$77.81 in August, 1952).

8. About 50,000 persons earn their living in food manufacturing plants in the state.

Railroads—

1. There are twelve Class I railroads operating in Michigan and 32 railroad companies in all.

2. There are about 7,000 miles of steam railroad track in Michigan.

3. Michigan railroads employ about 38,000 persons and pay them nearly \$122,000,000 a year for their services (1951).

4. The taxes paid by Michigan's railroads into the primary school fund each year equal the cost of a year's schooling for 116,000 children (1951).

Population—

1. Michigan in 1950 had a population of 6,371,766 and ranked seventh among the states.

2. About two thirds of the people of Michigan live in places of over 2,500 population, while fifty years ago two thirds lived on farms.

3. Cities of over 50,000 persons greatly influence the social and economic life of the surrounding areas, and are deemed to be metropolitan districts. Within Michigan, Bay City, Detroit, Flint, Grand Rapids, Jackson, Kalamazoo, Lansing, and Saginaw are centers of metropolitan areas.

4. Metropolitan Detroit contains 3,016,197 persons and consists of Macomb, Oakland, and Wayne counties.

5. Michigan ranked fourth among the states in percentage of population increase, 1940-1950.

Retail, Wholesale, and Service Trades—

1. Michigan, in 1948, had 68,756 retail establishments, which had sales of almost \$6,000,000,000 and employed 311,467 persons.

2. In 1948 there were 18,201 food stores, 8,526 gasoline service stations, 875 jewelry stores, 272 music stores, and 2,332 drug stores in Michigan.

3. There were 8,485 wholesale establishments in Michigan in 1948, whose sales totalled \$6,720,751,000. They employed over 80,000 workers.

4. Almost one half of the wholesale establishments were concentrated in the Detroit area; Grand Rapids is the second largest wholesaling center.

5. There were 21,376 personal, business, and repair services establishments in Michigan in 1948. Their receipts totaled \$367,268,000 and they employed well over 50,000 persons.

6. In 1948, there were 6,878 barber and beauty shops in Michigan; 1,013 cleaning and dyeing plants; 1,684 shoe repair shops; 252 establishments providing advertising services; 3,719 automobile repair service garages; and there were even 127 blacksmith shops.

Education—

1. In 1900 there were about 10,000 students in Michigan universities and colleges; in 1920, 20,000; in 1930, 30,000; in 1940, 60,000; in 1946, 84,000; and in 1949-50, 106,000.

2. About 36,000 students were enrolled during summer sessions.

3. Michigan junior colleges enrolled a total of 7,255 students in 1948-49.

4. There are 4,515 school districts in Michigan.

5. There are 3,700 school buses in Michigan. Pupils travel over 35,000,000 miles yearly, at a cost of over \$9,900,000.

6. In 1948-49, a total of 50,790 students were enrolled in agriculture, business, trade and industry, and homemaking courses.

7. In 1952-53, a total of over 1,190,000 students were enrolled in Michigan public schools.

8. State appropriations for public schools in 1950 amounted to over \$144,000,000; in 1952-53 it cost \$310,000,000 to operate the public schools.

9. Michigan has nine public four-year colleges, ten public junior colleges, and thirty-three nonpublic colleges.

10. In 1949, a total of 182,380 students were enrolled in private and parochial schools in Michigan.

11. About 580 districts in Michigan operate four-year high schools.

12. There were 474 accredited public high schools in Michigan in 1950-51.

13. There are nearly 6,000 school libraries in the state, containing over 4,000,000 volumes which cost nearly \$1,500,000.

14. There were 42,000 teachers in the public schools of Michigan in 1952-53.

15. The average salary for teachers in the public schools was \$3,721 in 1950-51.

16. Michigan Children's Institute at Ann Arbor is the direct successor of a state school for dependent and neglected children—the first of its kind in the United States.

17. The University of Michigan was the first state university in the Middle West and the first to admit women.

18. Michigan State College is the oldest agricultural college in the United States.

Agriculture—

1. There were 155,589 farms in Michigan in 1950, a decrease of almost 20,000 since 1945. About 47 per cent of the state's land area is in farms; about one-third of the state's land area is cultivated.

2. The average size of a Michigan farm was 111 acres in 1950.

3. Fifty-three per cent of Michigan farm homes had telephones, ninety-four per cent had electricity, and eighty-four per cent had automobiles in 1950.

4. The average Michigan farm (land and buildings) was worth \$98.52 per acre in 1950.

5. The average age of farm owners is about fifty-two; that of tenants is about thirty-nine. Less than 13 per cent of Michigan farmers are under 35, and 37 per cent of them are 55 and older.

6. About 80 per cent of Michigan farmers live on the farm they operate, and 65 per cent of them in 1950 had lived on the same farm for over five years.

7. Michigan harvested about 1,664,000 acres of corn in 1951, ranking eighteenth among the states; 1,232,000 acres of winter wheat, ranking eleventh; 1,486,000 acres of oats, ranking eighth; 114,000 acres of barley, ranking fifteenth; 62,000 acres of rye, ranking eighth; 54,000 acres of sugar beets, ranking fifth and 60,000 acres of potatoes, ranking sixth.

8. Michigan in 1951 ranked first in production of cantaloups, celery, cucumber pickles, and sour cherries; second in the production of field beans, plums, and cauliflower; and third in the production of red clover seed, snap beans for market, cabbage, carrots, cucumbers for market, and tomatoes for market.

9. There were about 79,000 horses, 1,870,000 cattle, 956,000 hogs, 443,000 sheep, and 11,325,000 chickens on Michigan farms on January 1, 1952.

Forests and Forest Industries—

1. Michigan contains 36,500,000 acres of land area of which 19,000,000 acres are in forest lands.

2. There are 2,000,000 acres of saw timber in the Upper Peninsula,

but only 730,000 acres in the Lower Peninsula.

3. There are nearly 2,000,000 acres of pole timber in the Upper Peninsula and about the same amount in the Lower Peninsula, the total being 3,700,000 acres.

4. The Upper Peninsula contains about 6,750,000,000 board feet of softwood and 12,340,000,000 board feet of hardwood saw timber. The Lower Peninsula contains about 650,000,000 board feet and 4,400,000,000 board feet respectively.

5. Michigan has twenty-two state forests containing over 6,000,000 acres and three federal forests containing over 5,000,000 acres. About 27,000,000 board feet, including cord wood, valued at \$130,000, are cut from state forest lands each year; and 40,000,000 board feet, valued at \$145,000, from federal forests.

6. Total lumber production (in millions of board feet):

1889—4,300	1929—571	1944—553
1899—3,018	1939—333	1945—467
1909—1,890	1942—531	1946—594
1919— 876	1943—407	1950—513

7. The yearly cut for lumber is only about one sixth what it was forty years ago, but wood pulp production has increased nearly four times (from about 60,000 tons to 220,000 tons) during the same period.

8. The Upper Peninsula produces half the pulpwood consumed within the state, with the Lower Peninsula furnishing 15 per cent and Canada the rest.

9. There are about 330,000 planted acres on national forest lands and 260,000 acres on state forest lands.

Geographic Features—

1. Michigan contains 96,720 square miles of which 57,022 square miles is land area.

2. Michigan has 2,242 miles of shore line, not counting her islands—more than any other state.

3. Ironwood is as far from Detroit as Asheville, North Carolina—about five hundred miles in a direct line.

4. Michigan has 25,000 miles of improved highway.

5. The largest gypsum quarry in the world is at Alabaster.

6. The Detroit River carries more tonnage yearly than the Rhine, Thames, Seine, and Volga combined.

7. Michigan has forty-nine state parks and fourteen recreational areas operated by the Department of Conservation.

8. There are about 300 airports in Michigan.

9. About one third of the Upper Peninsula is state or national forest.

10. The population of the state is very unevenly distributed; only 7 per cent of the people live in the Upper Peninsula, which contains nearly 30 per cent of the state's total area.

11. Only 6 per cent of the state's population live in the Lower Peninsula north of a line drawn from Bay City to Muskegon, although this region contains nearly 30 per cent of the state's total area.

12. Southern Michigan contains about 40 per cent of the land area but nearly 90 per cent of the population.

13. Half of the people of Michigan live within the triangle formed by the Clinton River, Huron River, Detroit River, and Lake St. Clair.

14. Michigan receives from twenty-five to thirty-five inches of rainfall annually, and has as many as 150 frost free days annually in the southern part of the state and as few as 90 frost free days in the north.

15. There are about 6,000 small glacial lakes in Michigan. Houghton Lake, the largest, occupies nearly thirty square miles.

16. Isle Royale is Michigan's most northern point. The island has no roads, has herds of wild moose, and is a national park.

17. Tahquamenon Falls are 200 feet wide and are divided into an upper and lower falls, the upper falls having a drop of over fifty feet.

18. Kitch-iti-kip-pi Spring near Manistique is 100 feet in diameter, 50 feet deep, and has a constant large flow of clear sparkling water.

19. The Great Lakes are the largest bodies of fresh water in the world. They touch eight states and three Canadian provinces.

Mining—

1. Michigan's year of highest coal production was 1907, with 2,000,000 tons. 1952 saw the closing of the last coal mine—the Swan Creek—near St. Charles, Saginaw County. This marked the end of Michigan's commercial coal industry.

2. Michigan has produced a total of nearly 5,000,000 tons of copper in the last hundred years. Production in 1951 was over 49,000,000 pounds, the value of which was over \$12,000,000.

3. In 1951 Michigan had thirty-seven active iron mines which produced over 13,000,000 tons of ore.

4. Eighty per cent of Michigan iron ore is produced in its thirty-one underground mines.

5. Michigan produced over 10,000,000,000 cubic feet of natural gas in 1951.

6. Michigan has a proved reserve of over 60,000,000 barrels of petroleum.

7. In 1951 over 13,000,000 barrels of petroleum were pumped from Michigan wells. There were 3,911 wells in thirty-four counties.

8. Michigan yearly produces over 5,000,000 tons of salt, more than one half of which is used in chemical commodities.

9. Michigan ranks first in salt production. The state produces over 25 per cent of the total salt production of the United States, the value of which is over \$18,000,000.

Dearborn Junior College

LEO F. CALLAHAN

21. Good Reading Suggestions

This is a highly selective list. Further suggestions for reading may be found at your local library or the State Library.

- BEAL, ROBERT, *Just Yesterday: A Macomb County History*. (Ann Arbor, Edwards Brothers Incorporated, 1948. Apply to author).
- BECK, EARL, *Lore of the Lumber Camps*. (Ann Arbor, University of Michigan Press, 1948. \$3.75).
- CHASE, FRED I. *How Michigan Makes Her Laws*. (Lansing, Fred I. Chase, 1946. \$.10). Useful information for the high school student.
- FORD, R. CLYDE, *Heroes and Hero Tales of Michigan*. (Eau Claire, Wisconsin, E. M. Hale and Company, 1930. \$.76). Simple biographies.
- HAMILTON, CHARLES F., *Our Hiawatha Land*. (Chicago, Lyons, 1940. \$2.00) An account of the Upper Peninsula and its pioneers.
- HATCHER, HARLAN H., *The Great Lakes*. (New York, Oxford University Press, 1944. \$4.00).
- HAVIGHURST, WALTER, *The Long Ships Passing*. (New York, Macmillan, 1942. \$3.00). That part of the waterways in Michigan's history.
- HOLBROOK, STEWART H., *Iron Brew*. (New York, Macmillan, 1939. \$3.00. A century of American ore and steel history.
- HOLBROOK, STEWART H., *Tall Timber*. (New York, Macmillan, 1941. \$1.50). A panorama of the lumber industry.
- HOLLING, HOLLING CLANCY, *Paddle-to-the-Sea*. (Boston, Houghton Mifflin, 1941. \$2.50).
- HUDGINS, BERT, *Michigan: Geographic Backgrounds in the Development of the Commonwealth*. (Detroit, 1948). For high school.
- HUNT, MABEL L., *Michel's Island*. (Philadelphia, Lippincott, 1940. \$2.00). An exciting story of the fur trade at Mackinac in the 1800's.
- JAMISON, JAMES K., *By Cross and Anchor*. (Paterson, New Jersey, St. Anthony Guild Press, 1946. \$2.50). The account of Father Baraga.
- LEWIS, FERRIS E., *My State and Its Story*. (Hillsdale, Hillsdale School Supply Company, 1937. \$1.44).
- MOSHER, EDITH R., and WILLIAMS, NELLA D., *From Indian Legends to the Modern Book Shelf*. (Ann Arbor, George Wahr, 1931. \$1.90).
- QUAIFE, MILO, and GLAZER, SIDNEY, *Michigan: From Primitive Wilderness to Industrial Commonwealth*. (New York, Prentice Hall, 1948. \$5.35. To schools \$4.00). A comprehensive text.
- SHEPHARD, ESTHER, *Paul Bunyan*. (New York, Harcourt, 1924. \$2.50).
- WORKS PROGRESS ADMINISTRATION, WRITER'S PROGRAM, *Michigan: A Guide to the Wolverine State*. (New York, Oxford University Press, 1941. \$3.25). A reference manual.

Michigan State Library
Western Michigan College of Education

LOUISE REES
MATE GRAYE HUNT

All those interested in Michigan history and life should support the historical organizations which make the publication of such booklets as *This Is Michigan* possible. The two state-wide historical organizations are the Michigan Historical Commission, the official state agency, and the Historical Society of Michigan, composed of history-minded persons in the state. You should join the Historical Society of Michigan and support its program.

If you are interested in Michigan history you also should join and support your county or city historical society. Every county and larger municipality should have a historical society. The purpose of the county or city historical society is similar to that of the state-wide Historical Society of Michigan: to collect records, such as letters, diaries, account books, pictures, maps, books, and museum objects; to preserve these records properly; to display museum objects and make other types of historical records accessible for use; and to hold meetings.

Many Michigan counties and cities have excellent historical societies; others have made no start. The latter is to be regretted, because each year valuable records are destroyed and thus much history is lost. Local historical societies are valuable cultural assets because we realize more and more that the knowledge of local history is the foundation for understanding national and world history. We must have a knowledge of the past in order to appreciate the present.

Anyone interested in joining or forming a county or city historical society should write the Michigan Historical Commission, Lansing 13.

Dearborn High School

FLOYD L. HAIGHT

This Is Michigan is a condensed account of the state and its history. It is hoped that this short history will prove to be useful to the general reader, the school teacher, the school children, and to those out-of-state visitors who wish to obtain a short overview of the state's history.

Each of the twenty chapters in *This Is Michigan* is written by a person who has studied and thought about the subject for years. Those who have written for the booklet have done so because of their interest in the history of the state and because they believe that history should be better known. They have written at the instigation of the Historical Society of Michigan, whose committee on education and publication is sponsor of the pamphlet.

The pamphlet, in addition to the general editorship of the writer, has been carefully edited for factual accuracy and interpretive synthesis by an editorial board of the committee on education and publication, consisting of Dr. Rolland H. Maybee, Dr. Madison Kuhn, and the writer. Dr. Maybee, as chairman of the committee on education and publication, deserves special thanks for the time, effort, and thought he has put into the pamphlet.

The writer believes that the pamphlet is an excellent one. It should have wide distribution. *This Is Michigan* is published by the Michigan Historical Commission for free distribution. Anyone wishing a copy of this booklet should write to the Michigan Historical Commission, Lansing 13.

Michigan Historical Commission

LEWIS BRESON